

# OWNER'S MANUAL

**Model No.  
148-860A**

- **ASSEMBLY**
- **OPERATION**
- **MAINTENANCE**
- **PARTS LIST**

11 HP HORIZONTAL SHAFT w/2V ELECTRIC  
STARTER ALTERNATOR

DIRECT DRIVE FROM ENGINE TO 4 SPEED TRANSMISSION

POWER FROM ENGINE TO ATTACHMENTS TRANSMITTED BY  
HIGH VELOCITY FIXED BELT

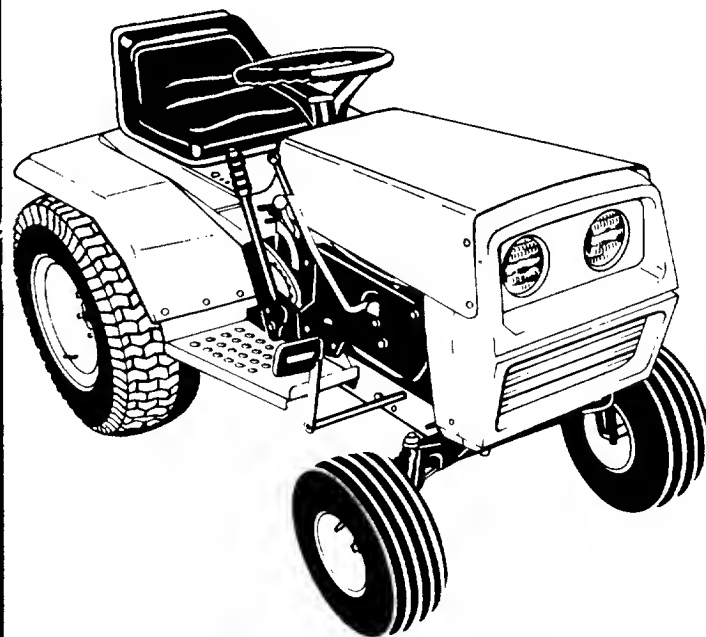
STEERING - AUTOMOTIVE Segment and Pinion Type / ADJUSTABLE TIE RODS FOR TOE  
IN ADJUSTMENT.

TIRES 22" x 7.50" Rear Pneumatic  
15" x 6.00" Front PNEUMATIC

## Important:

**Read Safety Rules and  
Instructions Carefully**

**11 H.P.  
COMPACT  
TRACTOR**



## **LIMITED WARRANTY**

For one year from the date of original retail purchase, MTD PRODUCTS INC will either repair or replace, at its option, free of charge, F.O.B. factory or authorized service firm, any part or parts found to be defective in material or workmanship. Transportation charges under this warranty must be paid by the purchaser unless return is requested by MTD PRODUCTS INC.

This warranty will not apply to any part which has become inoperative due to misuse, excessive use, accident, neglect, improper maintenance, alterations, or unless the unit has been operated and maintained in accordance with the instructions furnished. This warranty does not apply to the engine, motor, battery, battery charger or component parts thereof. Please refer to the applicable manufacturer's warranty on these items.

This warranty will not apply where the unit has been used commercially.

Warranty service is available through your local authorized service dealer or distributor. If you do not know the dealer or distributor in your area, please write to the Customer Service Department of MTD.

The return of a complete unit will not be accepted by the factory unless prior written permission has been extended by MTD.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

### **WARNING TO PURCHASERS OF INTERNAL COMBUSTION ENGINE EQUIPPED MACHINERY OR DEVICES IN THE STATE OF CALIFORNIA**

The equipment which you have just purchased does not have a spark arrester. If this equipment is used on any forest covered land, brush covered land, or grass covered unimproved land in the State of California, before using on such land, the California law requires that a spark arrester be provided. In addition, spark arrester is required by law to be in effective working order. The spark arrester must be attached to the exhaust system and comply with Section 4442 of the California Public Resources Code.

# **IMPORTANT**

It is suggested that this manual be read in its entirety before attempting to assemble or operate. Keep this manual in a safe place for future reference and for ordering replacement parts.

This unit is shipped WITHOUT GASOLINE or OIL. After assembly, see operating section of this manual for proper fuel and amount.

Your rotary mower is a precision piece of power equipment, not a plaything. Therefore exercise extreme caution at all times.

## **SAFE OPERATION PRACTICES FOR RIDING VEHICLES**

1. Know the controls and how to stop quickly—**READ THE OWNER'S MANUAL.**
2. Do not allow children to operate vehicle. Do not allow adults to operate it without proper instruction. Only persons well acquainted with these rules of safe operation should be allowed to use your mower.
3. Do not carry passengers.
4. Keep the area of operation clear of all persons, particularly small children and pets. Stop engine when they are in the vicinity of your mower. Although the area of operation should be completely cleared of foreign objects, a small object may have been overlooked and could be accidentally thrown by the mower in any direction.
5. Clear work area of objects which might be picked up and thrown by the mower in any direction.
6. Disengage all attachment clutches and shift into neutral before attempting to start engine.
7. Disengage power to attachment(s) and stop engine before leaving operator position.
8. Disengage power to attachment(s) and stop engine before making any repairs or adjustments. Disconnect the spark plug wire and keep the wire away from the plug to prevent accidental starting.
9. Before attempting to unclog the mower or discharge chute, stop the engine and be sure the blade(s) have stopped completely. Disconnect the spark plug wire and keep the wire away from the plug to prevent accidental starting.
10. Disengage power to attachment(s) when transporting or not in use.
11. Take all possible precautions when leaving vehicle unattended such as disengaging power-take-off, lowering attachments, shifting into neutral, setting parking brake, stopping engine and removing key.
12. Do not stop or start suddenly when going uphill or downhill. Mow up and down face of steep slopes; never across the face.
13. Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Exercise extreme caution when changing direction on slopes.
14. Stay alert for holes in terrain and other hidden hazards.
15. Use care when pulling loads or using heavy equipment.
  - A. Use only approved drawbar hitch points.
  - B. Limit loads to those you can safely control.
  - C. Do not turn sharply. Use care when backing.
  - D. Use counterweight(s) or wheel weights when suggested in owner's manual.
16. Watch out for traffic when crossing or near roadways.
17. When using any attachments never direct discharge of material toward bystanders nor allow anyone near vehicle while in operation.
18. Handle gasoline with care—it is highly flammable.
  - A. Use approved gasoline container.
  - B. Never remove cap or add gasoline to a running or hot engine or fill fuel tank indoors. Wipe up spilled gasoline.
  - C. Open doors if engine is run in garage—exhaust fumes are dangerous. Do not run engine indoors.
19. Keep the vehicle and attachments in good operating condition, and keep safety devices in place. Use guards as instructed in owner's manual.
20. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
21. Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow engine to cool before storing in any enclosure.
22. To reduce fire hazard keep engine free of grass, leaves or excessive grease.
23. The vehicle and attachments should be stopped and inspected for damage after striking a foreign object, and the damage should be repaired before restarting and operating the equipment.
24. Do not change the engine governor settings or overspeed the engine.
25. When using the vehicle with mower, proceed as follows:
  - (1) Mow only in daylight or in good artificial light.
  - (2) Never make a cutting height adjustment while engine is running if operator must dismount to do so.
  - (3) Shut the engine off and wait until the blade comes to a complete stop before removing the grass catcher.
  - (4) Check blade mounting bolts for proper tightness at frequent intervals.
26. Check grass catcher bags frequently for wear or deterioration. For safety protection replace only with new bag meeting original equipment specifications.
27. Look behind to make sure the area is clear before placing the transmission in reverse and backing up.

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## ASSEMBLY

The steering wheel and seat, with the necessary hardware, are easily assembled to the machine. The battery must be activated and installed as outlined in this section.



### NOTE

Reference to right hand side of machine is from the normal operating position facing forward.

- Step 1. Remove the tractor and all parts from the carton. Make certain that all loose parts and literature have been removed before the carton is discarded.
- Step 2. Place the steering wheel over the tapered end of the steering column. Press it down until the threaded end sticks through the steering wheel. See figure 1.



### NOTE

Line up the two flat sides of the steering wheel hole and the two flat sides of the steering column.

- Step 3. Place the cupped washer (with the cup down) over the steering column, then thread on the 5/16" nut.
- Step 4. Tighten the nut with a 1/2" wrench.
- Step 5. Press the cap on the steering wheel by hand.
- Step 6. Place the rubber pad over one of the mounting holes in the seat spring. See figure 2.
- Step 7. Place the bolt on the seat through the rubber pad and the seat spring.
- Step 8. Assemble the rubber washer and flat washer over the seat bolt and secure with the 1/2" nut.

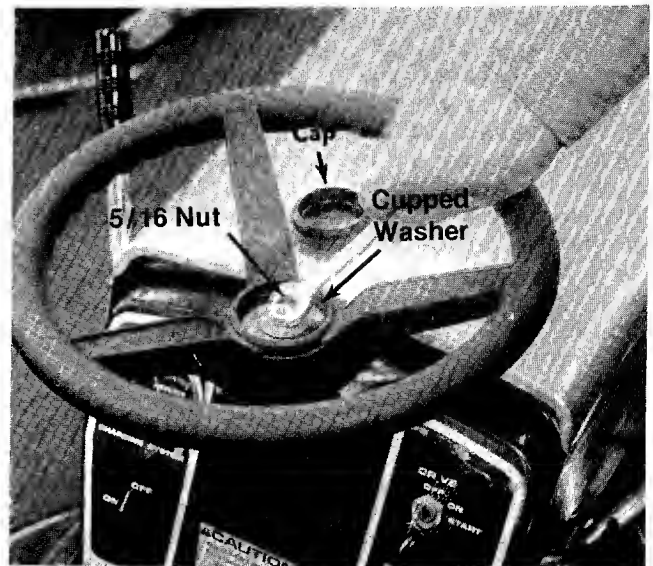


FIGURE 1

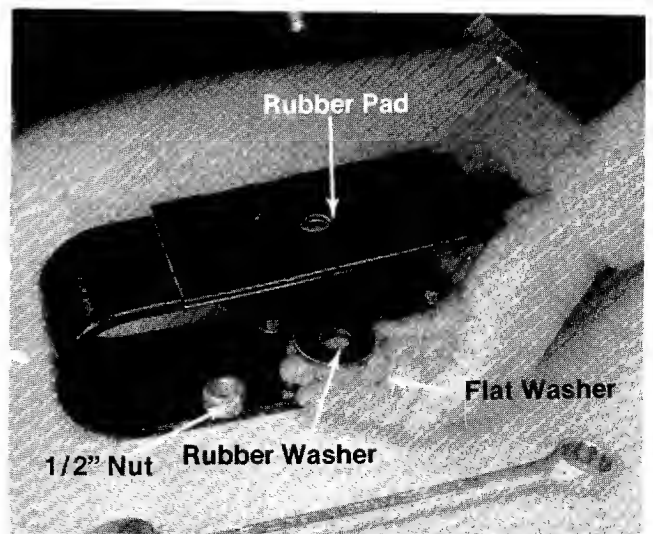


FIGURE 2

## TIRE PRESSURE

FOR SHIPPING PURPOSES, THE TIRES ON YOUR UNIT MAY BE OVER-INFLATED. TIRE PRESSURE SHOULD BE REDUCED BEFORE UNIT IS PUT INTO OPERATION. PRESSURE SHOULD BE APPROXIMATELY 15 P.S.I. EQUAL TIRE PRESSURE SHOULD BE MAINTAINED ON ALL TIRES. MAXIMUM TIRE PRESSURE IS 30 P.S.I.



### CAUTION

Installation of tire to rim:

1. Lubricate tire beads and rim flanges.
2. Do not exceed 30 P.S.I. when seating beads.
3. Adjust to recommended pressure after beads are sealed.

## BATTERY INFORMATION

The following information must be read before activating and installing the battery in the tractor.



### WARNING

- A. Battery acid must be handled with great care as it will blister the skin and damage clothing. It is advisable to wear goggles, rubber gloves, and a protective apron when working with it.
- B. Neutralize acid spilled on clothing with dilute ammonia water or a water solution of baking soda. If acid gets on clothes, dilute it with clean water first, then neutralize.
- C. If for any reason acid should be spattered in the eyes, wash it out immediately with clean cold water. Seek medical aid if discomfort continues.
- D. Since battery acid is corrosive to metals, do not pour into any sink or drain. Rinse empty electrolyte containers and mutilate before discarding.



### WARNING

BATTERIES CONTAIN SULFURIC ACID AND MAY CONTAIN EXPLOSIVE GASES (when electrolyte has been added)

- A. Keep sparks, flame, cigarettes away.
- B. Hydrogen gas is generated during charging and discharging.
- C. Ventilate when charging or using in enclosed space.

D. When using a charger—to avoid sparks—NEVER connect or disconnect charger clips to battery while charger is turned on.

E. Always shield eyes, protect skin and clothing when working near batteries.

### A. ACTIVATING THE BATTERY

1. Place battery to be filled on bench or workbench. NEVER activate battery in unit. Remove vent caps from all cells.
2. Fill each cell carefully using battery grade 1.250-1.265 specific gravity, sulfuric acid to be 3/8" above the top of the separators or to the split ring.
3. Allow battery to set for 20 minutes to 1/2 hour. Add additional acid if necessary to bring it up to the proper level.
4. Replace the vent caps.
5. The battery can now be charged after the 20 minutes setting period. Battery must be SLOW CHARGED (DO NOT FAST CHARGE) at a maximum bench rate of 4-5 amperes until the specific gravity reading is 1.265-1.275. A charging rate in excess of this will buckle and warp the positive plates and perforate the separators. If electrolyte bubbles violently while charging, reduce charging rate until excessive bubbling action subsides, then continue charging until specific gravity is reached.



### CAUTION

After battery has been in service, add only approved water. DO NOT ADD ACID.

### INSTALLING THE BATTERY

Step 1. Place the battery in the battery case with the terminals to the rear. (See figure 3.)



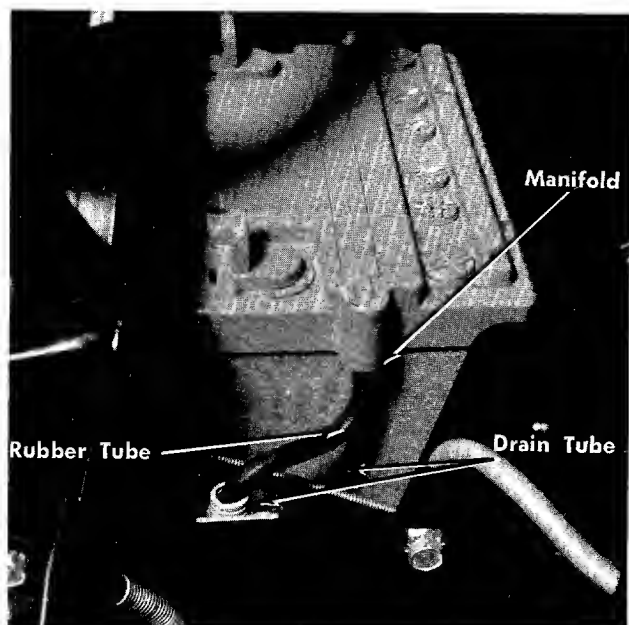
### NOTE

The positive battery terminal is marked marked Pos (+). The negative battery terminal is marked Neg. (-).

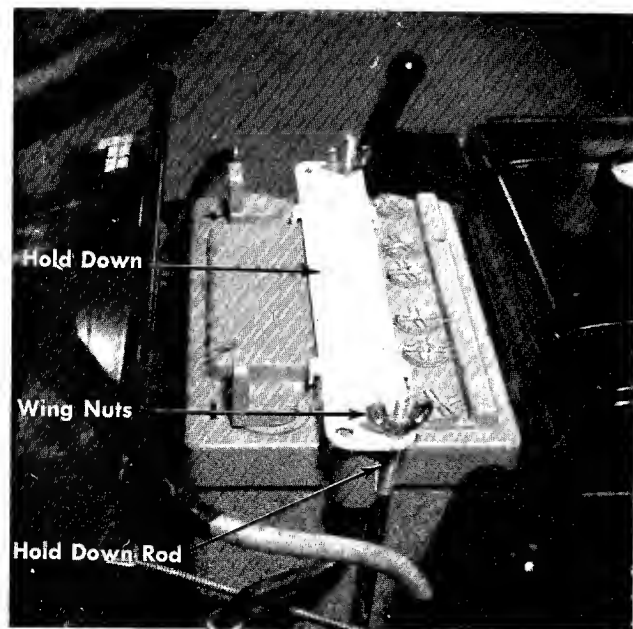
Step 2. Cut the black rubber tubing approximately 6 inches long.

Step 3. Push the rubber tubing into the manifold of the battery and place the other end into the drain tube. (See figure 3.)

Step 4. Hook the hold down rods under the battery case and place the hold down over both rods.



**FIGURE 3**



**FIGURE 4**

- Step 5. Secure the hold down with the wing nuts. Tighten hand tight. (See figure 4.)
- Step 6. Attach the positive cable (from the starter solenoid) and the small wire (from the ammeter) to the positive battery terminal with the 1/4" bolt, lockwasher and nut in the assembly pack. (See figure 5.)
- Step 7. Attach the negative cable, grounded, to the negative battery terminal with the 1/4" bolt, lockwasher and nut in the assembly pack.

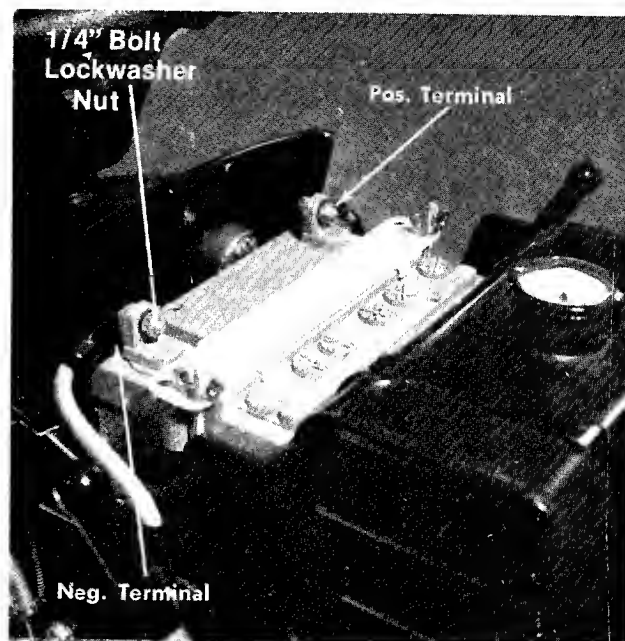
**NOTE**

The vented battery allows any gases or liquid from the battery to be carried to the rear of the mower through the drain tube.



**CAUTION**

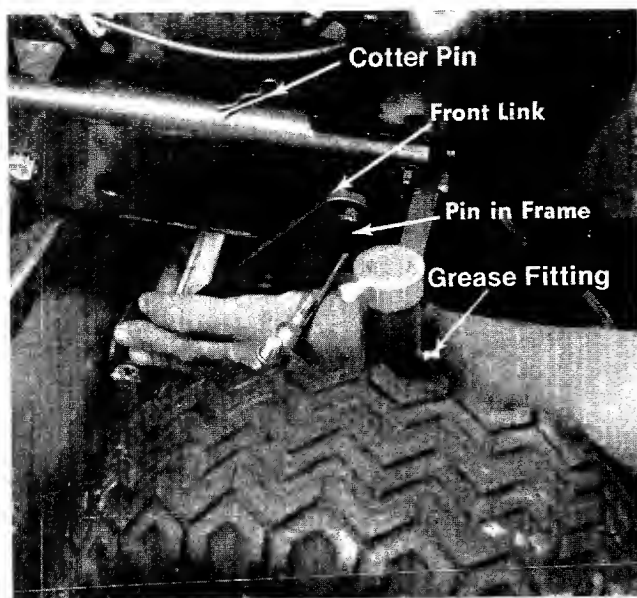
If the tractor is tipped up on end for any reason the battery must be removed. There may be a small amount of acid in the drain tube that can come out when the tractor is tipped.



**FIGURE 5**

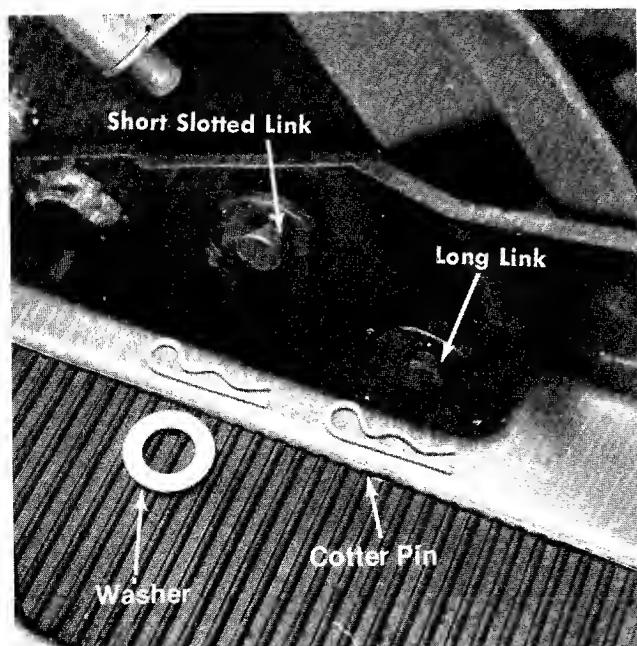
**Attaching the Cutting Deck (Optional) to the tractor.**

- Place either blocks of wood or bricks under the rear wheels so the cutting deck can slide under the tractor.
- There are six link arms (4 long, 2 short) on the cutting deck. Swing all six arms into the forward position.
- From the front of the rider, grasp both front links and hook them in the pins in frame and secure with cotter pins. (See figure 6.)



**FIGURE 6 . FRONT LINK ASSEMBLY**

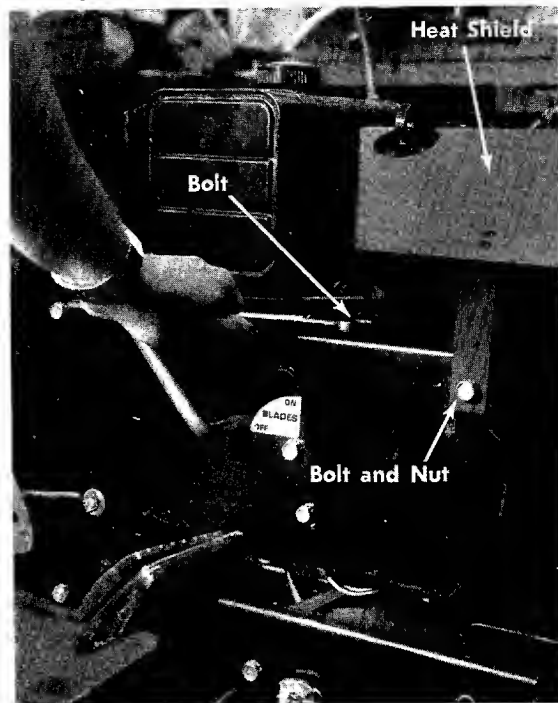
- d. Place the two center links through the hole in the foot rest and attach the short slotted link to the pin in the lift arm and attach the long link to the pin in the frame. See figure 7..
- e. Place washer (1/2" I.D.) over the short slotted link and secure both links with cotter pins. See figure 7.



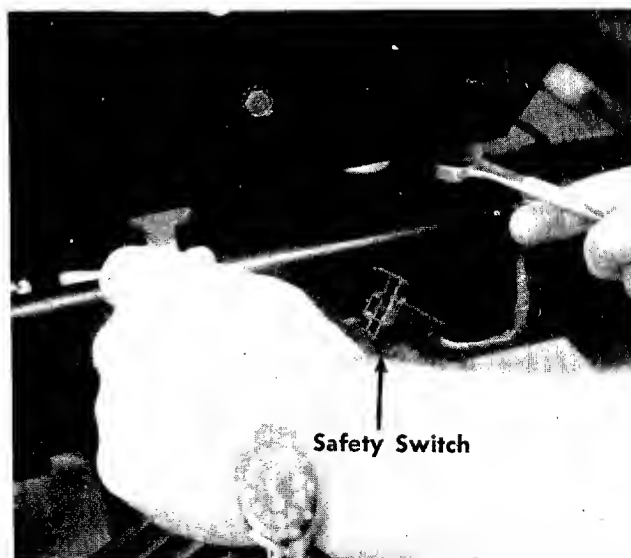
**FIGURE 7 CENTER LINK ASSEMBLY**

- f. Pull the belt through the slot in the frame of the tractor.
- g. Remove the top bolt on the belt guard. See figure 8.

- h. Unplug the safety switch. See figure 9.
- i. Remove the two bottom bolts on the belt guard. Lift off the belt guard. See figure 9.



**FIGURE 8 BELT GUARD**



**FIGURE 9 BELT GUARD REMOVAL**

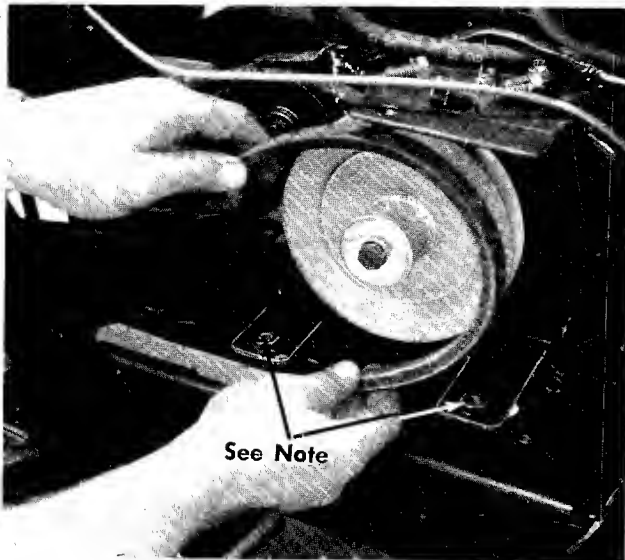
- j. Attach the deck belt to the engine PULLEY. See figure 10.



Be sure the bottom part of the belt goes through the two brackets.



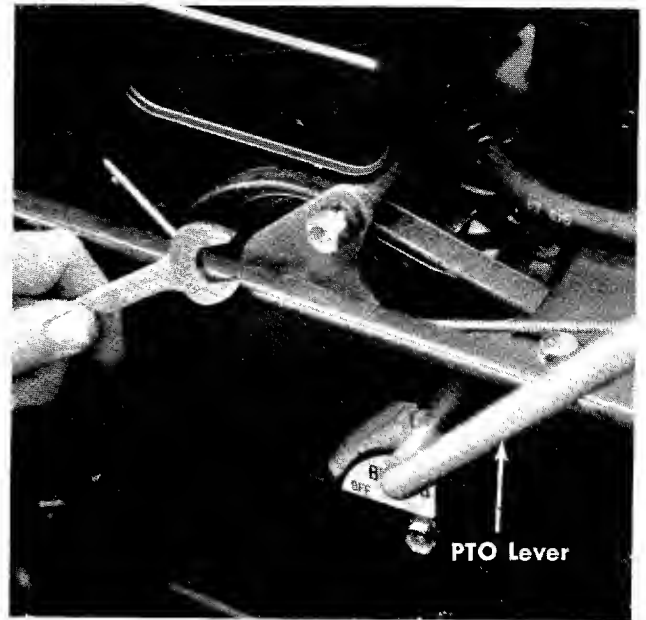
- k. Remove the idler belt guard. See figure 11.
- l. Reassemble the belt guard to the tractor.
- m. Move the PTO lever to the ON position and reassemble the idler belt guard. See figure 12.



**FIGURE 10 ATTACHING THE DECK BELT**



**FIGURE 11 IDLER BELT GUARD**



**FIGURE 12 IDLER BELT GUARD**

## CONTROLS AND PRELIMINARY CHECKS

### CONTROLS

The controls on your tractor may be considered as the following:

**a. Throttle control.** The throttle control is used to regulate the engine speed and choke the engine. The engine should be operated from  $\frac{3}{4}$  to full throttle when operating the cutting deck or snow thrower. (Optional) (See figure 13.)

**b. Gear Shift Lever.** Use the following guide for gear selection. See figure 13.

#### 1st Gear:

- Heavy grass cutting
- Snow Blade
- Snow Thrower
- Pulling heavy loads

#### 2nd Gear:

- Normal grass cutting
- Light snow throwing
- Pulling light loads

#### 3rd Gear:

- Light grass cutting
- Road Gear

#### 4th Gear:

- Travel Gear

#### Reverse:

- Look to the rear when backing up.



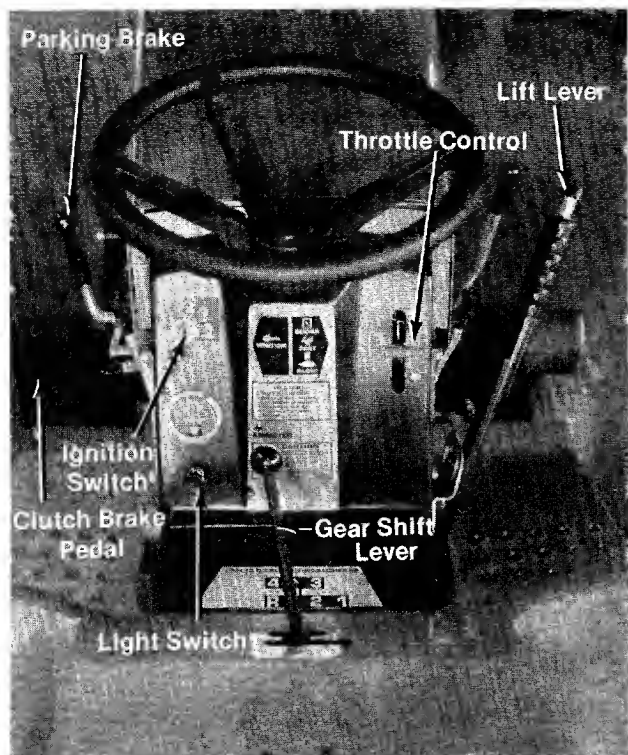


FIGURE 13

**c. Parking Brake.** To set the parking brake, pull the parking brake lever back and hold it in the locked position while moving the locking arm to the left. See figure 14.

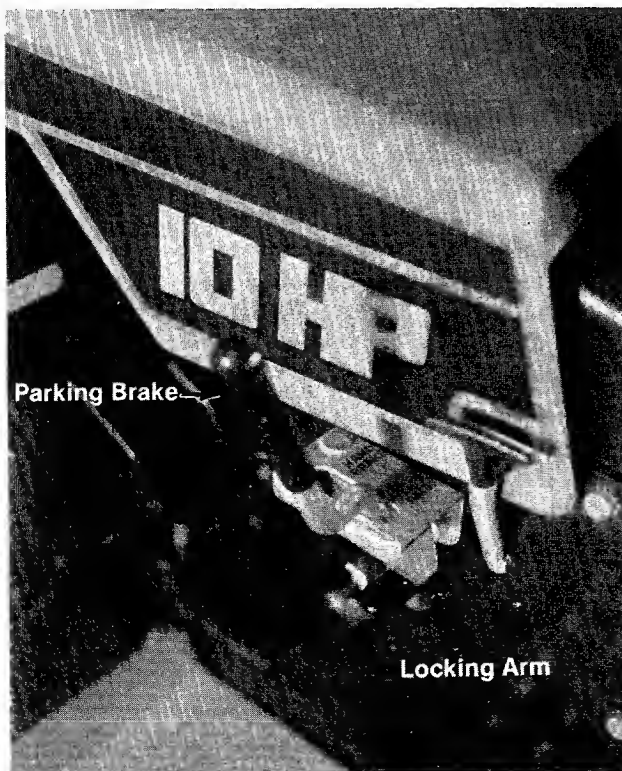


FIGURE 14

**d. Clutch-Brake Pedals** Depress both of them all the way down to stop or shift gears. Release pedals slowly to engage. See figure 13.



The pedals must be depressed in order to start the engine.



Do not shift while in motion.

**e. PTO Lever.** The PTO lever engages the deck belt when it is moved forward. Moving it to the rear disengages the deck belt. The engine will not start unless the PTO is in the OFF position as shown in figure 15.

**f. Lift Lever.** Depress the thumb button and pull back on the lift lever to raise the attachments. See figure 15.

**g. Ignition Switch.** Turn the switch all the way to the right to engage the starter. As soon as the engine starts, release the ignition key so that the starter is switched off. Turn the key to the left to shut off the engine. See figure 13.



The clutch-brake pedal must be depressed and the PTO lever must be in the OFF position before the starter will operate.

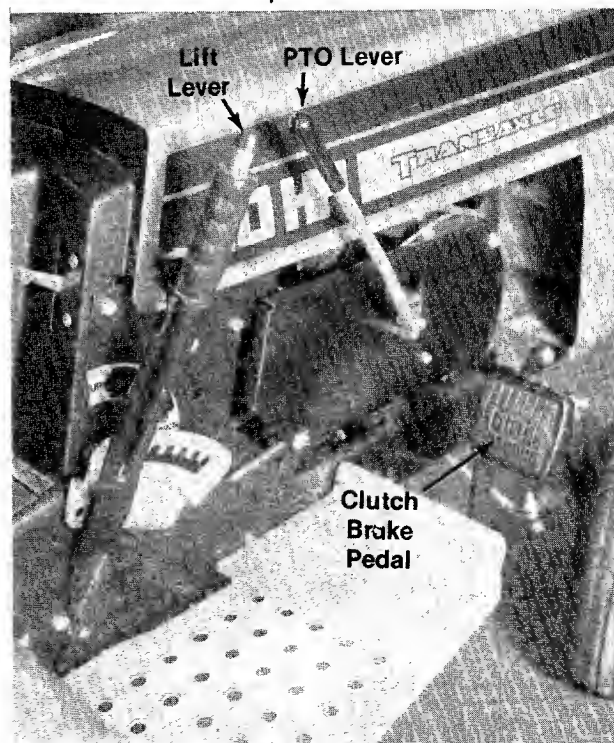


FIGURE 15

**h. Light Switch.** Pull the light switch out to turn on the lights. The ignition switch must be on to operate the lights. See figure 13.

**i. Ammeter.** The ammeter registers the rate of battery charge or discharge. The ammeter should register on the plus (+) side when the engine is running in the fast position until the battery is completely charged. With a fully charged battery or with the engine idling the ammeter will not show a charge. See figure 13.

## CHECKING OIL AND GASOLINE



### NOTE

When packaged for shipment, the machine contains no oil or gasoline. Before starting the engine, oil must be added to the engine crankcase and gasoline to the tank. **DO NOT** mix oil with gasoline.

**Briggs & Stratton.** Use a high quality detergent oil classified "For Service SC or SD or MS". Nothing should be added to the recommended oil.

**Summer.** (Above 40°F.) Use SAE 30. If not available use SAE 10W-30 or SAE 10W-40.

**Winter.** (Under 40°F.) Use SAE 5W-20 or SAE 5W-30. If not available, use SAE 10W or SAE 10W-30. Below 0°F., use SAE 10W or SAE 10W-30 diluted 10% with kerosene.

Place the engine level. Fill the oil sump to the **FULL** mark on the dipstick. Pour slowly. See figure 22.

**Crankcase Capacity.** 2¾ pints.

## OPERATING INSTRUCTIONS



### WARNING

The mower shall not be operated without the chute deflector in place.

After striking a foreign object, stop the engine (motor), remove the wire from the spark plug, thoroughly inspect the mower for any damage and repair the damage before restarting and operating the mower.

### STARTING THE ENGINE

Refer to page 9 for information regarding oil and gasoline requirements, check that spark plug wire is connected, then proceed as follows:

Step 1. Be sure the fuel shut-off valve is open. The shut off valve is located under the gasoline tank.

Step 2. With the machine set on level ground place the gear shift lever in **NEUTRAL (N)** position. See figure 13.

Step 3. Place the PTO lever in the **OFF** position as shown in figure 15.

Step 4. Depress the clutch brake pedals all the way down. See figure 15.

Step 5. Set the throttle control in the **CHOKE** position. See figure 13.

Step 6. Turn the ignition key to the right to **START** position to start the engine. Allow the key to return to the **ON** position. See figure 13.



### NOTE

A brief break-in period is essential to ensure maximum engine and mower life. This consists of running the engine at half speed for a period of time required to use one tank of gasoline. It is also recommended to change crankcase oil after the first 2 hours of operation.

### STOPPING THE ENGINE

To stop the engine, turn the ignition key to the left to the **OFF** position. Do not leave the key in the ignition switch.



### WARNING

Whenever the mower is left unattended, disconnect the spark plug lead and remove the ignition key.

### STOPPING THE BLADES (Optional Equipment)

Move the PTO lever towards you to stop the blades from turning. See figure 15.

### STOPPING THE RIDER

To stop the rider from moving forward or backward, depress the clutch-brake pedals. See figure 13.



### CAUTION

1. Keep all shields and guards in place.
2. Before leaving the operator's position:
  - Shift transmission to neutral
  - Set parking brake
  - Disengage attachment clutch
  - Shut off engine
  - Remove ignition key
3. Wait for all movement to stop and remove spark plug lead before servicing machine.
4. Keep people and pets a safe distance away from machine.



### CAUTION

Parking brake **MUST** be disengaged before unit is put into motion.

## MAINTENANCE

### TROUBLESHOOTING

Refer to the chart on page 15 for troubleshooting engine problems.

### CRANKCASE OIL

To ensure maximum engine performance, perform the following periodic maintenance:

#### a. Oil Check

Check the oil level in the crankcase before each use of the machine and after every two hours of operation. Keep the oil level between ADD and FULL.

#### b. Oil Change

After the first two hours of operating a new engine, drain the oil from the crankcase while engine is still hot and refill crankcase with new oil; thereafter change the oil after every 25 hours of operation. This procedure ensures for minimum wear of engine parts and provides for virtually trouble-free operation. To change the oil, proceed as follows:

Step 1. Remove the dip stick.

Step 2. Drain the oil through the hole in the front or side of the engine. Use an allen wrench to remove the side plug or an open end wrench to remove the front plug.

Step 3. Replace the plug.

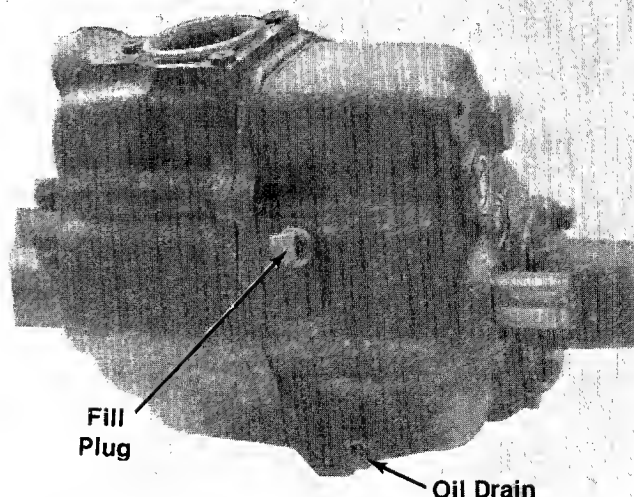
Step 4. Refill the crankcase with the oil recommended on page 9.

### TRANSAXLE LUBRICATION

The transaxle is lubricated at the factory with four pints of SAE 90 E.P. oil. When replacing or adding oil remove the oil fill plug and fill the gear case until it overflows from the fill plug. Replace the oil fill plug. Remove the drain plug from the bottom of the transaxle to drain the oil. The transaxle oil should be checked when the oil is cold. Change the oil once a year. See figure 16.

### WHEEL BEARING LUBRICATION

**Front Wheels**—The front wheel bearings are self-lubricating oilite bearings. No additional lubrication is necessary.



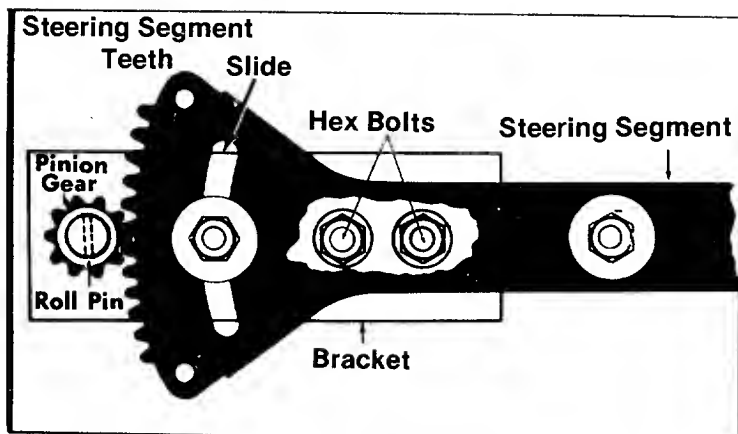
**FIGURE 16**

**Rear Wheels**—The rear wheel bearings are lubricated by the oil in the transaxle.

**King Pins**—The king pins have self-lubricating oilite bearings and require no additional lubrication.

### STEERING GEAR LUBRICATION

Lubricate the teeth on the steering segment, pinion gear and slide with automotive multi-purpose grease after every 24 hours of operation. See figure 17.



**FIGURE 17 . STEERING ASSEMBLY**

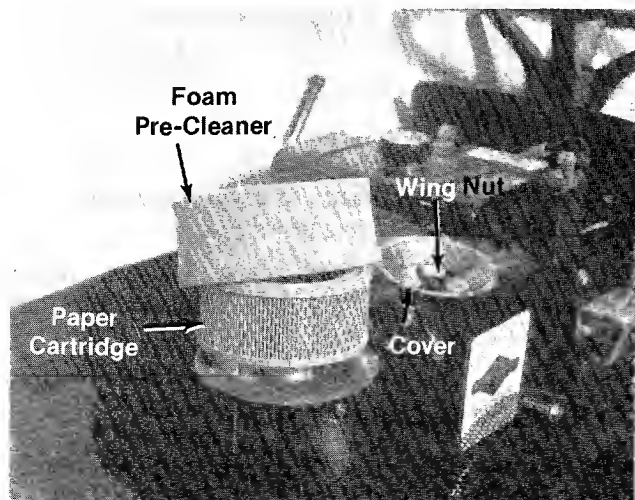
### STEERING ADJUSTMENT

The “play” or looseness of the steering can be adjusted by loosening the two hex bolts on the bracket and lightly tapping the bracket towards the front of the tractor. If the pinion gear becomes worn it can be rotated one-half turn by removing the pin. (See figure 17.)

### AIR FILTER (See figure 18.)

Clean and re-oil foam pre-cleaner at 3 month intervals or every 25 hours, whichever occurs first.

1. Remove wing nut and cover.
2. Remove foam pre-cleaner element by sliding it up off of the paper cartridge.



**FIGURE 18**

3. A—Wash foam in liquid detergent and water.  
B—Squeeze dry.  
C—Oil with one ounce engine oil. Squeeze to distribute oil evenly.

4. Assemble to paper cartridge. Reassemble cover and wing nut. Screw wing nut down tight.

Yearly or every 100 hours, whichever occurs first, remove paper cartridge. Clean by tapping gently on flat surface. If very dirty, replace cartridge, or wash in liquid detergent and water. Rinse until water remains clear. Cartridge must be air dried thoroughly before using.



Service more often under dusty conditions.

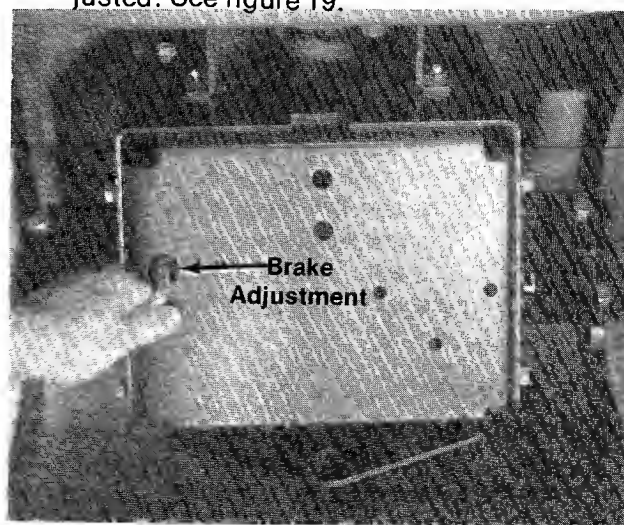
### CLUTCH-BRAKE PEDAL ADJUSTMENT

To adjust the angle of the clutch-brake pedal, remove the cotter pin and washer on the clutch rod and turn the clutch rod in or out of the ferrule to obtain the most comfortable angle of the pedal when the pedal is released. Replace the washer and cotter pin. See figure 20.

The brake adjustment is made by using a ½” deep well socket and turning the adjusting nut clockwise through the opening in the back panel. This reduces the distance between the brake band and the drum. See figure 19.



If the spring tension idler goes below the height of the engine pulley when the clutch-brake pedal is depressed it will cause excessive belt wear and the brake should be adjusted. See figure 19.



**FIGURE 19**

## TRANSMISSION BELT REMOVAL



### WARNING

Remove spark plug lead.

Step 1. Remove the deck belt from the engine pulley in reverse order as described in the assembly portion of this manual. See figures 8 through 12.

Step 2. Remove the hex bolt from the spring tension idler.

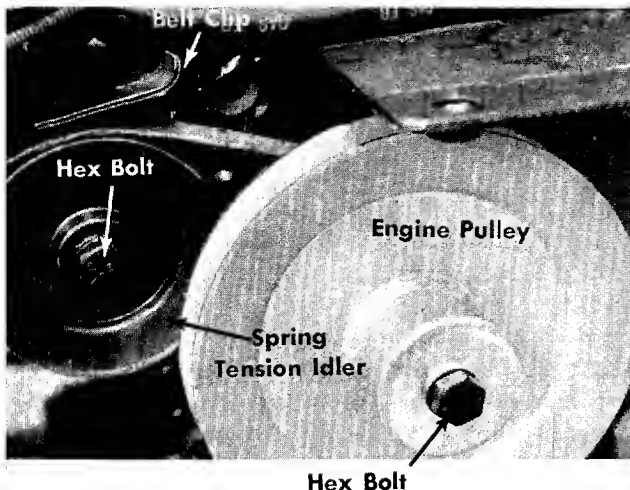


FIGURE 21 ENGINE PULLEY



### NOTE

The idler bracket is notched so the belt clip will be correctly positioned.

Step 3. Remove the hex bolt holding the engine pulley to the crankshaft of the engine. Pull the pulley off so the belt can be removed. See figure 21.

Step 4. It will be easier to remove the V-belt if you take off the right rear wheel assembly.

Step 5. Remove the belt guard on the transmission pulley. See figure 20.

Step 6. Depress the clutch brake pedal and set the parking brake.

Step 7. Remove the hex bolt on the engine pulley and slide the pulley and V-belt off the engine crankshaft. See figure 21.

Step 8. Unhook the V-belt from the transmission pulley and pull it out towards the front of the tractor.

Step 9. Install the new belt by threading it in through the hole next to the transmission pulley and pull it forward.

## WHEEL ADJUSTMENT

The caster (forward slant of the kingpin) and the camber (tilt of the wheels out at the top) requires no adjustment. Automotive steering principles have been used to determine the caster and camber on the tractor. The front wheels should toe-in 1/8 inch. To adjust the toe-in, loosen the hex jam nut, remove the elastic locknut, drop the tie-rod end out of the hole in the steering arm and screw the tie-rod end in or out to make the adjustment. The distance "B" must be less than "A" by 1/8 inch. See figures 22 and 23.

To adjust the toe-in follow these steps:

1. Remove the elastic locknut and drop the tie rod from the wheel bracket. See figure 22.
2. Loosen the hex jam nut on the tie rod. See figure 22.
3. Adjust the tie rod assembly for correct toe-in. Dimension "B" should be approximately 1/8" less than dimension "A". See figure 23.

**NOTE: DO NOT ALLOW SPRING TENSION IDLER TO PIVOT BEYOND THIS POINT WHEN BRAKE IS APPLIED. ADJUST BRAKE PEDAL TO PLACE SPRING TENSION IDLER IN PROPER POSITION.**

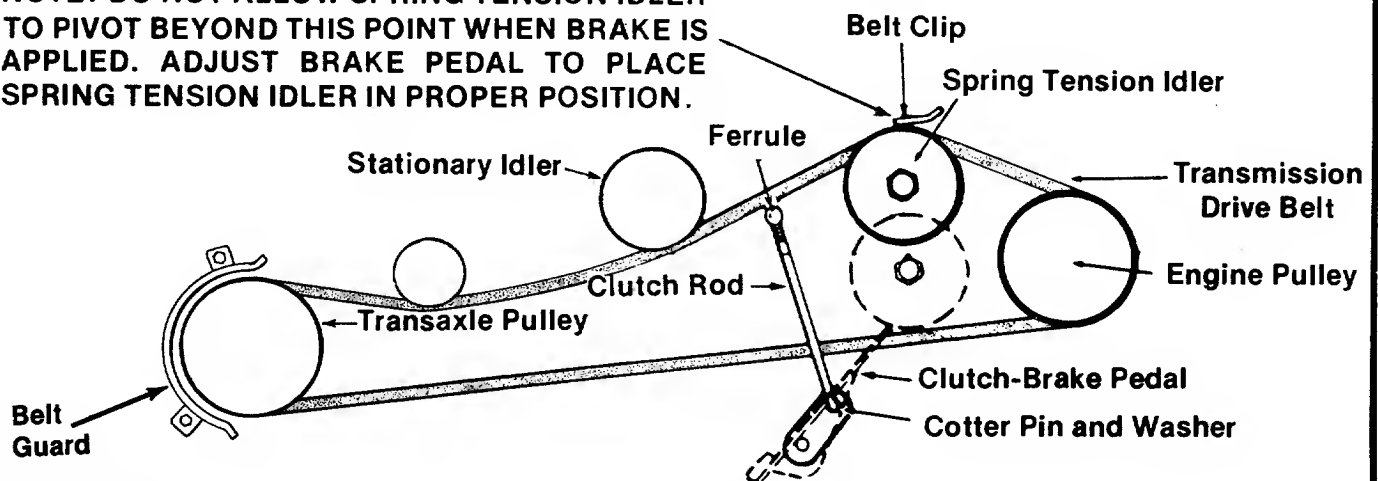


FIGURE 20.

- A.) To increase dimension "B", screw tie rod from tie rod end.
- B.) To decrease dimension "B", unscrew tie rod from tie rod end.
- C.) Reassemble tie rod. Check dimension. Readjust if necessary.

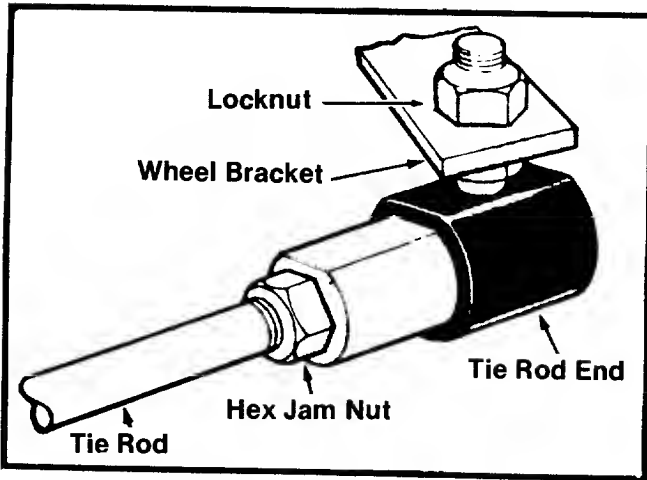


FIGURE 22

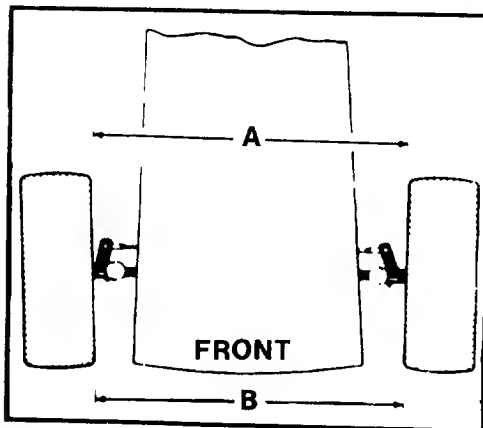


FIGURE 23

#### CLEAN COOLING SYSTEM

Grass particles, chaff or dirt may clog the air-cooling system, especially after prolonged service in cutting dry grasses. Continued operation with a clogged cooling system may cause severe overheating and possible engine damage. It is necessary to remove the blower housing to completely clean this area. See figure 24.

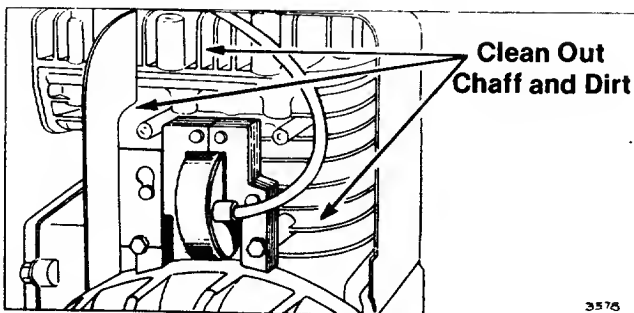


FIGURE 24 COOLING SYSTEM

#### FUEL SHUT-OFF VALVE AND FILTER

The fuel shut-off valve is located under the gasoline tank and is opened by turning it counterclockwise.

#### CARBURETOR ADJUSTMENTS (See figure 25.)

Minor carburetor adjustment may be required to compensate for differences in fuel, temperature, altitude and load.

**To Adjust Carburetor:** Turn needle valve clockwise until it just closes. **Caution:** Valve may be damaged by turning it too far.

Now open needle valve 1 1/8 turns counterclockwise. Close idle valve in same manner and open 1 1-1/8 turns. This initial adjustment will permit the engine to be started and warmed up prior to final adjustment.

**Final Adjustment:** Turn needle valve in until engine misses (lean mixture) then turn it out past smooth operating point until engine runs unevenly (rich mixture). Now turn needle valve to the mid-point between rich and lean so the engine runs smoothly. Hold throttle at idle position and set idle speed adjusting screw until fast idle is obtained (1750 RPM). Hold throttle in idle position and turn idle valve in (lean) and out (rich) until engine idles smoothly. Then reset idle speed adjusting screw so that engine idles at 1750 RPM. Release throttle—engine should accelerate without hesitation or sputtering. If engine does not accelerate properly, the carburetor should be re-adjusted to a slightly richer mixture.

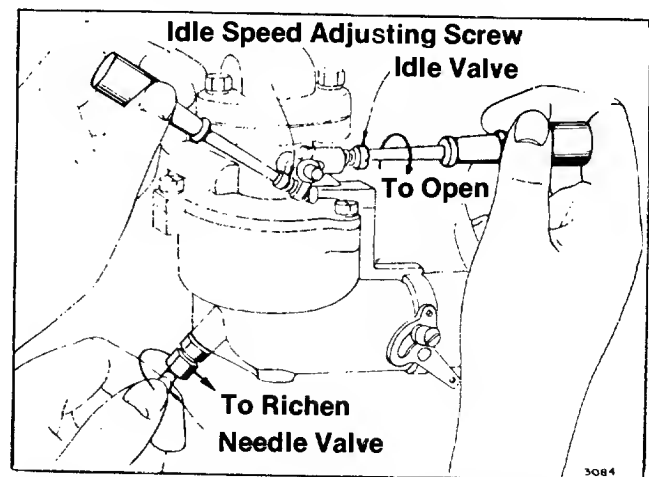


FIGURE 25. CARBURETOR ADJUSTMENT  
CHOKE-A-MATIC CARBURETOR CONTROL

#### ADJUSTMENTS (See figure 26.)

Proper choke and stop switch operation is dependent upon proper adjustment of remote control on the powered equipment.



### To Check Operation of Choke-A-Matic Controls:

- Remove air cleaner.
- Move remote control lever to CHOKE position. The carburetor choke should be closed.
- Move remote control to STOP position. Lever should make good contact with stop switch.

### To Adjust:

Place remote control lever on equipment in FAST (high speed) position. Loosen control casing clamp screw "B". Move control casing "A" and wire until lever "D" touches choke operating link at "C". Tighten casing clamp screw "B". Replace air cleaner.

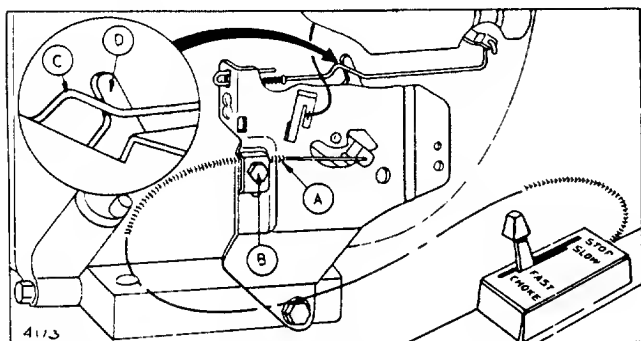


FIGURE 26. CHOKE ADJUSTMENT

## OFF-SEASON STORAGE

If the machine is to be inoperative for a period longer than 30 days, the following precautions are recommended:

- Step 1. Working outdoors, drain all fuel from the fuel tank. Use a clean dry cloth to absorb the small amount of fuel remaining in the tank, then run the engine until all fuel in carburetor is exhausted.



**WARNING**

Do not drain fuel while smoking, or if near an open fire.

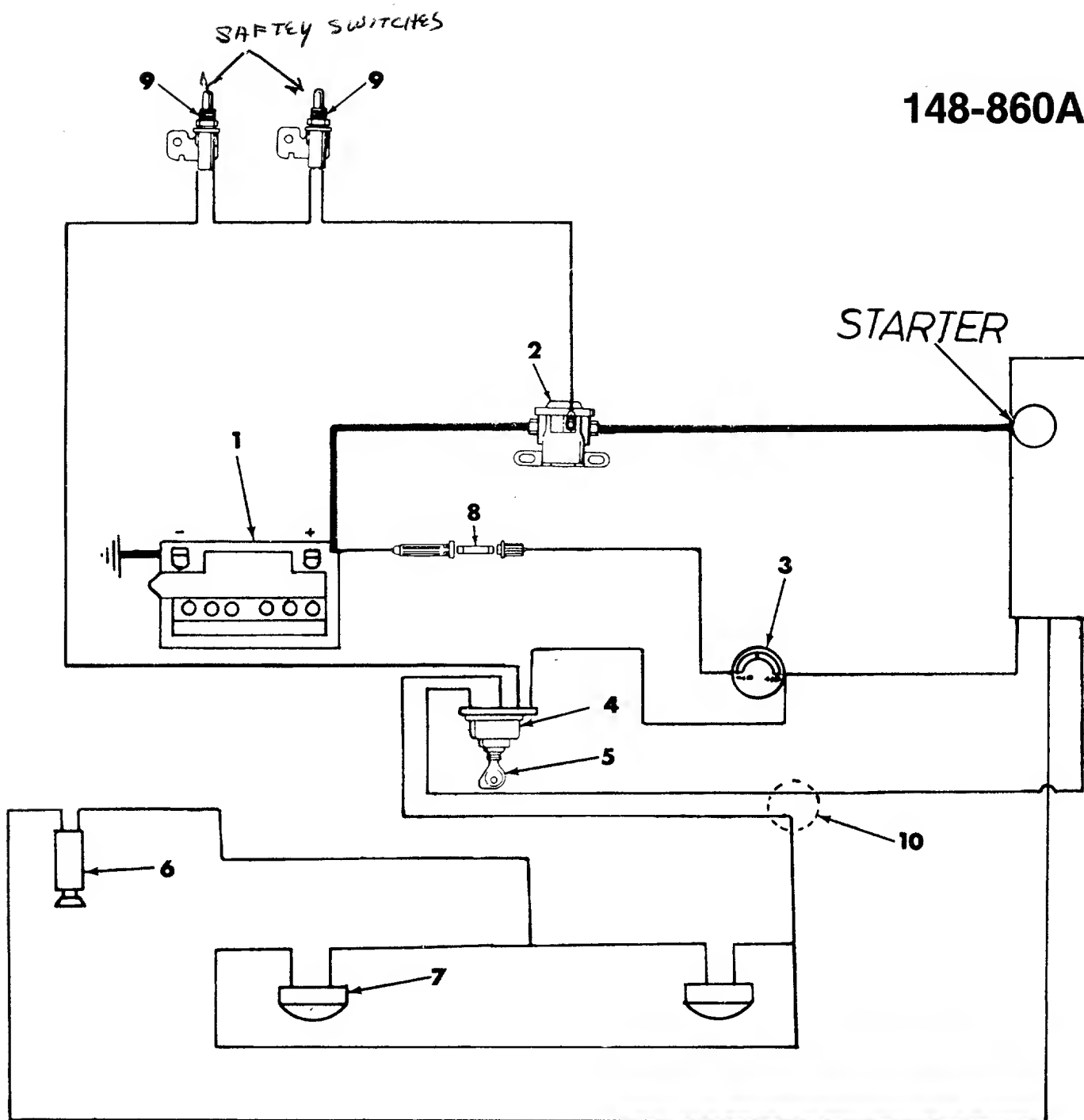
- Step 2. Drain all the oil from the crankcase (this **SHOULD BE DONE AFTER THE ENGINE** has been operated and is still warm) and refill the crankcase with clean new oil.
- Step 3. Disconnect the spark plug wire and remove the spark plug from the cylinder. Pour about six drops of engine oil into the cylinder and then pull the recoil starter several times to spread the oil on the cylinder wall. Replace the spark plug, but **DO NOT** connect the wire.
- Step 4. Clean the engine and the entire mower thoroughly.
- Step 5. Lubricate all lubrication points indicated in the Maintenance Section, then wipe the entire machine with an oiled rag in order to protect the surfaces.



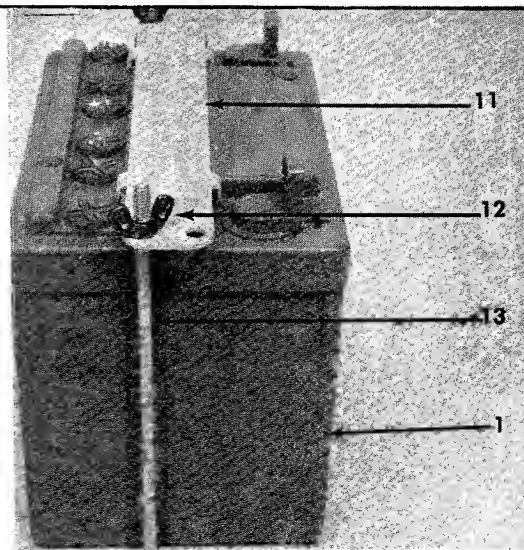
# TROUBLE SHOOTING CHART

Problem	Cause	Remedy
1 Engine fails to start	<p>A Check fuel tank for gas</p> <p>B Spark plug lead wire disconnected</p> <p>C Throttle control lever not in the starting position</p> <p>D Faulty spark plug</p> <p>E Carburetor improperly adjusted</p> <p>Engine flooded</p>	<p>A Fill tank if empty</p> <p>B Connect lead wire</p> <p>C Move throttle lever to start position</p> <p>D Spark should jump gap between control electrode and side electrode. If spark does not jump, replace the spark plug.</p> <p>E Remove spark plug, dry the plug, crank engine with plug removed, and throttle in off position. Replace spark plug and lead wire and resume starting procedures.</p>
2 Hard starting or loss of power	<p>A Spark plug wire loose</p> <p>B Carburetor improperly adjusted</p> <p>C Dirty air cleaner</p>	<p>A Connect spark plug wire</p> <p>B Adjust carburetor. See engine section of this manual.</p> <p>C Clean air cleaner as described in the Engine section of this manual.</p>
3 Operation erratic	<p>A Dirt in gas tank</p> <p>B Dirty air cleaner</p> <p>C Water in fuel supply</p> <p>D Vent in gas cap plugged</p> <p>E Carburetor improperly adjusted</p>	<p>A Remove the dirt and fill tank with fresh gas</p> <p>B Clean air cleaner as described in the engine section of this manual.</p> <p>C Drain contaminated fuel and fill tank with fresh gas.</p> <p>D Clear vent or replace gas cap</p> <p>E Adjust carburetor. See engine section of this manual.</p>
4 Occasional skip (hesitates) at high speed	<p>A Carburetor idle speed too slow</p> <p>B Spark plug gap too close</p> <p>C Carburetor idle mixture adjustment improperly set</p>	<p>A Adjust carburetor. See engine section of this manual.</p> <p>B Adjust to .030"</p> <p>C Adjust carburetor. See engine section of this manual.</p>
5 Idles poorly	<p>A Spark plug fouled, faulty, or gap too wide</p> <p>B Carburetor improperly adjusted</p> <p>C Dirty air cleaner</p>	<p>A Reset gap to .030" or replace spark plug</p> <p>B Adjust carburetor. See engine section of this manual.</p> <p>C Clean air cleaner as described in the engine section of this manual.</p>
6 Engine overheats	<p>A Carburetor not adjusted properly</p> <p>B Air flow restricted</p> <p>C Engine oil level low</p>	<p>A Adjust carburetor. See engine section of this manual.</p> <p>B Remove blower housing and clean as described in the engine section of this manual.</p> <p>C Fill crankcase with the proper oil</p>
7 Excessive vibration	<p>A Cutter blade loose or unbalanced</p>	<p>A Tighten blade and adapter</p>

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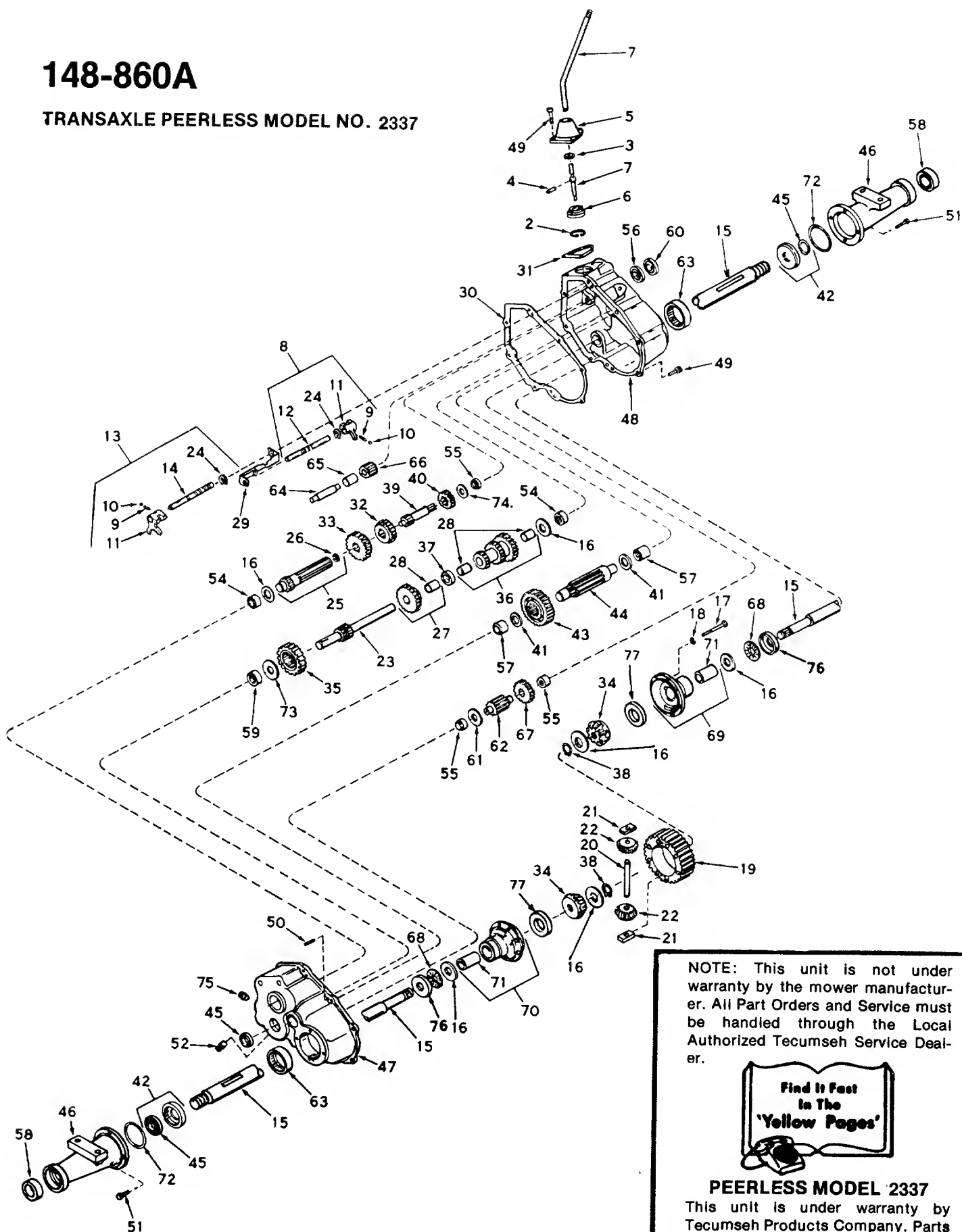


REF NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	725-0453		Battery	
2	725-0530		Solenoid	
3	725-0119		Ammeter	
4	725-0267		Ignition Switch	
5	725-0201		Key	
6	725-0202		Light Switch	
7	725-0222		Head Lamp	
8	725-0298		Fuse 7½ Amp. 32V. 3 AG 1¼" Lg.	
9	725-0268		Safety Switch	
10	725-0433		Wire Harness	
11	12614		Battery Hold Down	
12	712-0113		Wing Nuts ¼-20 Thd.	
13	711-0284		Hold Down Rods	



# 148-860A

TRANSAXLE PEERLESS MODEL NO. 2337



NOTE: This unit is not under warranty by the mower manufacturer. All Part Orders and Service must be handled through the Local Authorized Tecumseh Service Dealer.



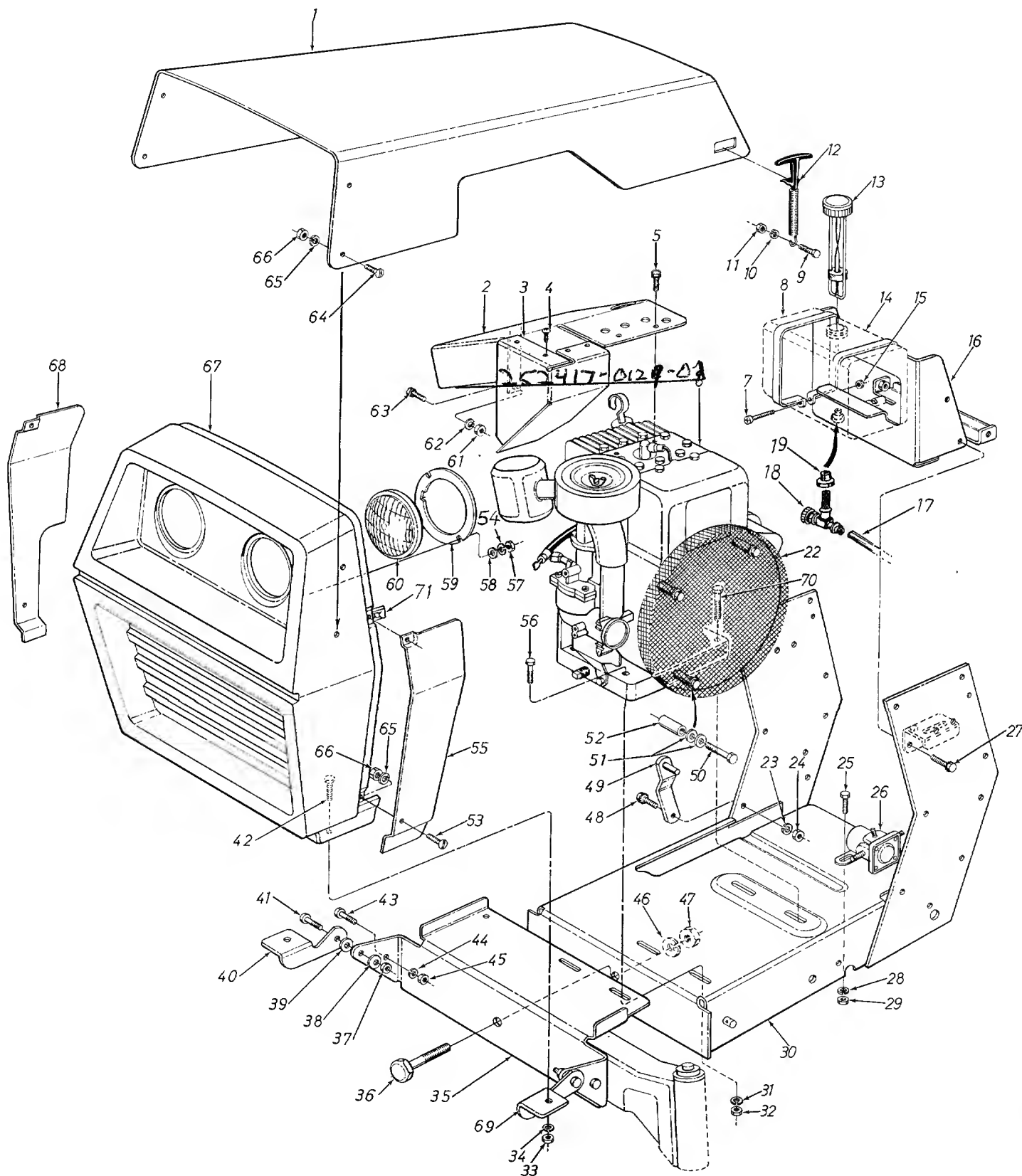
## PEERLESS MODEL 2337

This unit is under warranty by Tecumseh Products Company. Parts and Service are available through all Tecumseh, Lauson Power Products Service Dealers. Check the "Yellow Pages" of your telephone directory under "Engines—Gasoline."

## PARTS LIST FOR TRANSAXLE PEERLESS MODEL 2337

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
2	PE-792016	Ring, Snap	40	PE-778024	Spur Gear, Input Shaft
3	PE-792001	Ring, Quad	41	PE-780052	Washer, Thrust
4	PE-792049	Pin, Roll	42	PE-788021	Seal and Retainer Ass'y., Oil (Incl. No. 45)
5	PE-784093	Housing, Shift Lever	43	PE-778036	Gear, Output
6	PE-784094	Keeper, Shift Lever	44	PE-776028	Pinion, Output
7	PE-784292	Lever, Shift	45	PE-788008	Seal, Oil
8	PE-784054	Rod Ass'y., Shift (Incl. Nos. 9 thru 12 and 24)	46	PE-782025	Housing, Axle
9	PE-792003	Spring	47	PE-772016A	Cover Ass'y., Transaxle (Incl. Nos. 54, 55, 57, 59 and 63)
10	PE-792004	Ball, Steel	48	PE-770012	Case Ass'y., Transaxle (Incl. Nos. 54, 55, 57 and 63)
11	PE-784004	Fork, Shifter	49	PE-792007	Scr., Socket Hd. Cap 1/4-20 x 3/4
12	PE-784055	Rod, Shifter (3rd and 4th)	50	PE-786026	Pin, Dowel
13	PE-784056	Rod Ass'y., Shift (Incl. Nos. 9, 10, 11, 14 and 24)	51	PE-792037	Scr., Hex Hd. Sems, 5/16-18 x 1
14	PE-784057	Rod, Shifter (Low)	52	PE-792019	Plug, Magnetic Drain
15	PE-774361	Axle	54	PE-780049	Bearing, Needle
16	PE-780042	Washer, Thrust	55	PE-530105	Bearing, Needle
17	PE-792005	Scr. Hex Hd. Cap 1/4-20 x 2 1/2	56	PE-780024	Bearing, Ball
18	PE-792006	L-Wash. 1/4"	57	PE-780047	Bearing, Needle
19	PE-778033A	Gear, Ring	58	PE-780050	Bearing, Ball
20	PE-786019	Pin, Drive	59	PE-780046	Bearing, Needle
21	PE-786027	Block, Drive	60	PE-788025	Seal, Oil
22	PE-778094	Pinion, Bevel	61	PE-780001	Washer
23	PE-776029A	Shaft and Gear, Brake	62	PE-776031	Shaft and Pinion
24	PE-792017	Ring, Snap	63	PE-780048	Bearing, Needle
25	PE-776026	Shaft and Brg. Ass'y., Pinion (Incl. No. 26)	64	PE-776030	Shaft, Reverse Idler
26	PE-780018	Bearing, Needle	65	PE-786025	Spacer, Reverse Idler
27	PE-778034	Gear Cluster Ass'y. (Incl. No. 28)	66	PE-778016	Idler, Reverse
28	PE-780053	Bushing	67	PE-778038	Spur Gear (22 teeth)
29	PE-784074	Stop, Shifter	68	PE-780039	Bearing, Thrust
30	PE-788023	Gasket, Case and Cover	69	PE-774072A	Carrier Ass'y., Differential (Incl. No. 71)
31	PE-788022	Gasket, Shifter Lever Housing	70	PE-774071A	Carrier Ass'y., Differential (Incl. No. 71)
32	PE-778019	Gear, Shifting (3rd and 4th)	71	PE-780041	Bushing
33	PE-778020	Gear, Shifting (1st, 2nd and Rev.)	72	PE-788024	"O" Ring
34	PE-778095	Gear, Bevel	73	PE-780007	Washer, Thrust
35	PE-778037	Gear, Idler	74	PE-780051	Washer, Thrust
36	PE-778035	Gear Cluster Ass'y. (Incl. No. 28)	75	PE-792010	Plug, Pipe
37	PE-786024	Spacer	76	PE-780075	Race, Thrust
38	PE-792018	Ring, Snap	77	PE-780107	Washer
39	PE-776175	Shaft, Input			

# 148-860A



# PARTS LIST FOR MODEL 148-860A

REF NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	13233	—462	Hood	N	38	736-0105		Bell. Wash.	
2	12933		Heat Shield Brkt. Ass'y.		39	736-0300		FI-Wash. .385 I.D. x .87 O.D. x .06	
3	13245		Heat Shield	N	40	13246		Grille Pivot Brkt.—R.H.	
4	710-0227		Hex Wash. Hd. Mach. Scr. #8-32 x .50" Lg.*		41	710-0253		Hex Scr. 3/8-16 x 1.00" Lg.*	
5	710-0377		Hex Sems Scr. 1/4-20 x .62" Lg.*		42	710-0198		Hex Sems Scr. 5/16-18 x .75" Lg.*	
6	—		Engine		43	710-0216		Hex Scr. 3/8-16 x .75" Lg.*	
7	710-0279		Fillister Mach. Scr. 1/4-20 x 1.75" Lg.*		44	736-0169		L-Wash. 3/8" Scr.*	
8	723-0151		Fuel Tank Strap		45	712-0798		Hex Nut 3/8-16 Thd.*	
9	710-0195		Hex Scr. 1/4-20 x .62" Lg.*		46	736-0158		L-Wash. 5/8" Scr.*	
10	736-0329		L-Wash. 1/4" Scr.*		47	712-0923		Hex Cent. L-Nut 5/8-18 Thd.	
11	712-0138		Hex Nut 1/4-28 Thd.		48	710-0253		Hex Scr. 3/8-16 x 1.00" Lg.	
12	723-0296		Hood Latch Ass'y.		49	12949		Belt Brkt. Ass'y.	
13	723-0155		Fuel Gage		50	710-0606		Hex Scr. 1/4-20 x 1.50" Lg.*	
14	751-0225		6 Qt. Fuel Tank		51	736-0142		FI-Wash. .281 I.D. x .50 O.D.	
15	712-0287		Hex Nut 1/4-20 Thd.*		52	750-0260		Spacer—Engine Screen	
16	11967		Battery Box Ass'y.		53	710-0255		Truss Mach. Scr. 1/4-20 x .75" Lg.*	
17	751-0173		Fuel Line—Plastic—14" Lg.		54	736-0329		L-Wash. 1/4"*	
18	751-0171		Fuel Shut-Off Valve		55	13235	—462	Grille Side Panel—L.H.	
19	735-0149		Fuel Tank Bushing		56	710-0344		Hex Scr. 3/8-16 x 1.50" Lg.*	
22	12396		Engine Guard		57	712-0107		Hex Cent. L-Nut 1/4-20 Thd.*	
23	736-0169		L-Wash. 3/8" Scr.*		58	736-0463		FI-Wash. 1/4"*	
24	712-0798		Hex Nut 3/8-16 Thd.*		59	09960		Head Light Retainer	
25	710-0258		Hex Scr. 1/4-20 x .62" Lg.*		60	725-0222		Head Light	
26	725-0530		Solenoid		61	712-0267		Hex Nut 5/16-18 Thd.*	
27	710-0198		Hex Sems Scr. 5/16-18 x .75" Lg.*		62	736-0119		L-Wash. 5/16" Scr.*	
28	736-0329		L-Wash. 1/4" Scr.*		63	710-0198		Hex Sems Scr. 5/16-18 x .75" Lg.*	
29	712-0287		Hex Nut 1/4-20 Thd.*		64	710-0255		Truss Mach. Scr. 1/4-20 x .75" Lg.*	
30	11955		Front Frame Ass'y.		65	736-0329		L-Wash. 1/4" Scr.*	
31	736-0169		L-Wash. 3/8" Scr.*		66	712-0287		Hex Nut 1/4-20 Thd.*	
32	712-0798		Hex Nut 3/8-16 Thd.*		67	719-0235	—462	Grille Complete	
33	712-0267		Hex Nut 5/16-18 Thd.*		68	13234	—462	Grille Side Panel—R.H.	
34	736-0119		L-Wash. 5/16" Scr.*		69	13247		Grille Pivot Brkt.—L.H.	
35	11946		Front Pivot Support		70	710-0342		Hex Scr. 3/8-16 x 1.25" Lg.*	
36	710-0533		Hex Scr. 5/8-18 x 2.50" Lg.		71	712-0292		Speed Nut 1/4-20	
37	712-0181		Hex Top L-Nut 3/8-16 Thd.						

\*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

(462—Red Flake)

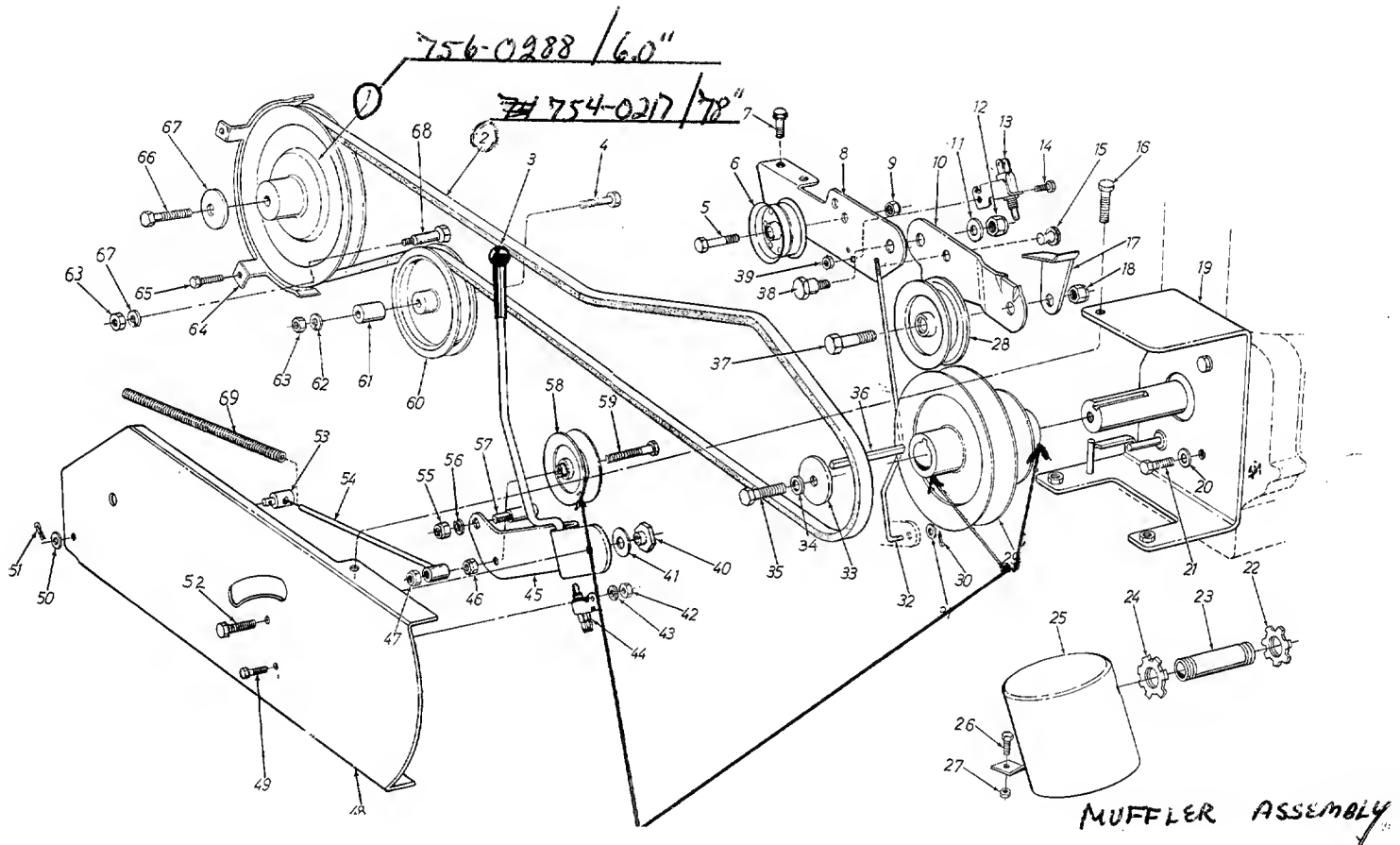
When ordering parts if color is important, use the appropriate color code listed above. (e.g. 12369—462—Red Flake)



## NOTE

This instruction manual covers various models and all specifications shown do not necessarily apply to your model. Specifications subject to change without notice or obligation.

148-860A





**PARTS LIST FOR MODEL NO. 148-860A**

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	756-0288		6.0" Dia. Pulley (Transaxle)	N	35	710-0191		Hex Scr. 3/8-24 x 1.25"	
2	754-0217		V-Belt 21/32 x 78" Lg.	N	36	714-0114		Sq. Key 1/4 x 2"	
3	720-0143		Grip		37	710-0459		Hex Scr. 3/8-24 x 1.5" Lg.*	
4	710-0937		Hex Scr. 3/8-16 x 2 1/2" Lg.*		38	738-0143		Shld. Scr. .498 Dia. x .340 Lg.	
5	710-0459		Hex Scr. 3/8-24 x 1.5" Lg.*		39	712-0324		Hex Ins. L-Nut 1/4-20 Thd.*	
6	756-0117		Flat Idler		40	711-0404		Shoulder Bolt	
7	710-0198		Hex Sems Scr. 5/16-18 x .75" Lg.*		41	736-0100		FI-Wash. .531 I.D. x 1.25" O.D. x .036"	
8	08620		Clutch Mtg. Brkt. Ass'y.		42	712-0287		Hex Nut 1/4-20 Thd.*	
9	712-0116		Hex Ins. L-Nut 3/8-24 Thd.*		43	736-0329		L-Wash. 1/4"	
10	09200		Clutch Brkt.		44	725-0268		Safety Switch	
11	736-0300		FI-Wash. .385 I.D. x .87 O.D x .06"		45	13254		Clutch Brkt. Ass'y.	
12	712-0130		Hex Ins. L-Nut 3/8-24 Thd.*		46	712-0130		Hex Ins. L-Nut 3/8-16*	
13	725-0268		Safety Switch		47	712-0130		Hex Ins. L-Nut 3/8-16*	
14	710-0258		Hex Scr. 1/4-20 x .62" Lg.*		48	11940		Clutch Cover Plate	
15	711-0179		Adj. Ferrule		49	710-0258		Hex Scr. 1/4-20 x .62"	
16	710-0198		Hex Sems Scr. 5/16-18 x .75" Lg.*		50	736-0159		FI-Wash. .344 I.D.*	
17	08664		Belt Keeper		51	714-0111		Cotter Pin 3/32 Dia. x 1.00 Lg.*	
18	712-0116		Hex Ins. L-Nut 3/8-24 Thd.*		52	710-0322		Hex Sems Scr. 5/16-18 x 1"	
19	11938		Engine Mtg. Brkt. Ass'y.		53	711-0432		Brake Ferrule	
20	736-0119		Spring L-Wash. 5/16"		54	11964		Spring Guide Ass'y.	
21	710-0118		Hex Scr. 5/16-18 x .75" Lg.*		54	11964		Spring Guide	
22	712-0250		Conduit L-Nut—H.D.		55	712-0798		Hex Nut 3/8-16*	
23	751-0170		Muffler Tube		56	736-0169		L-Wash. 3/8"	
24	712-0250		Conduit L-Nut—H.D.		57	738-0209		Lockout Shaft	
25	751-0179		Muffler Ass'y.		58	756-0236		V-Idler Pulley Deck Drive	
26	710-0289		Hex Scr. 1/4-20 x .50" Lg.*		59	710-0427		Hex Scr. 3/8-16 x 2.00" Lg.*	
27	712-0287		Hex Nut 1/4-20 Thd.*		60	756-0117		Flat Idler	
28	756-0116		V-Idler Pulley		61	711-0396		Spacer .380 I.D. x .630 O.D. x .760 Lg.	
29	756-0201		Engine Two Step Pulley 3.25"-5.25"		62	736-0169		L-Wash. 3/8"	
30	714-0474		Cotter Pin 1/8" x .75"		63	712-0798		Hex Nut 3/8-16 Thd.*	
31	736-0264		FI-Wash. .344 I.D.*		64	13243		Belt Guard Ass'y.	
32	711-0218		Clutch Rod		65	710-0252		Hex Scr. 1/4-20 Thd. x .75"	
33	07386		FI-Wash. .390 I.D. x 1 3/4 O.D. x 3/16		66	710-0591		Hex Scr. Self Lock 3/8-24 x 1.00" Lg.	
34	736-0169		Spring L-Wash. 3/8"		67	736-0105		Bell. Wash. .400" I.D. x .88 O.D. x .060	
					68	738-0117		Shoulder Bolt	
					69	732-0281		Clutch Spring	

Power Take off

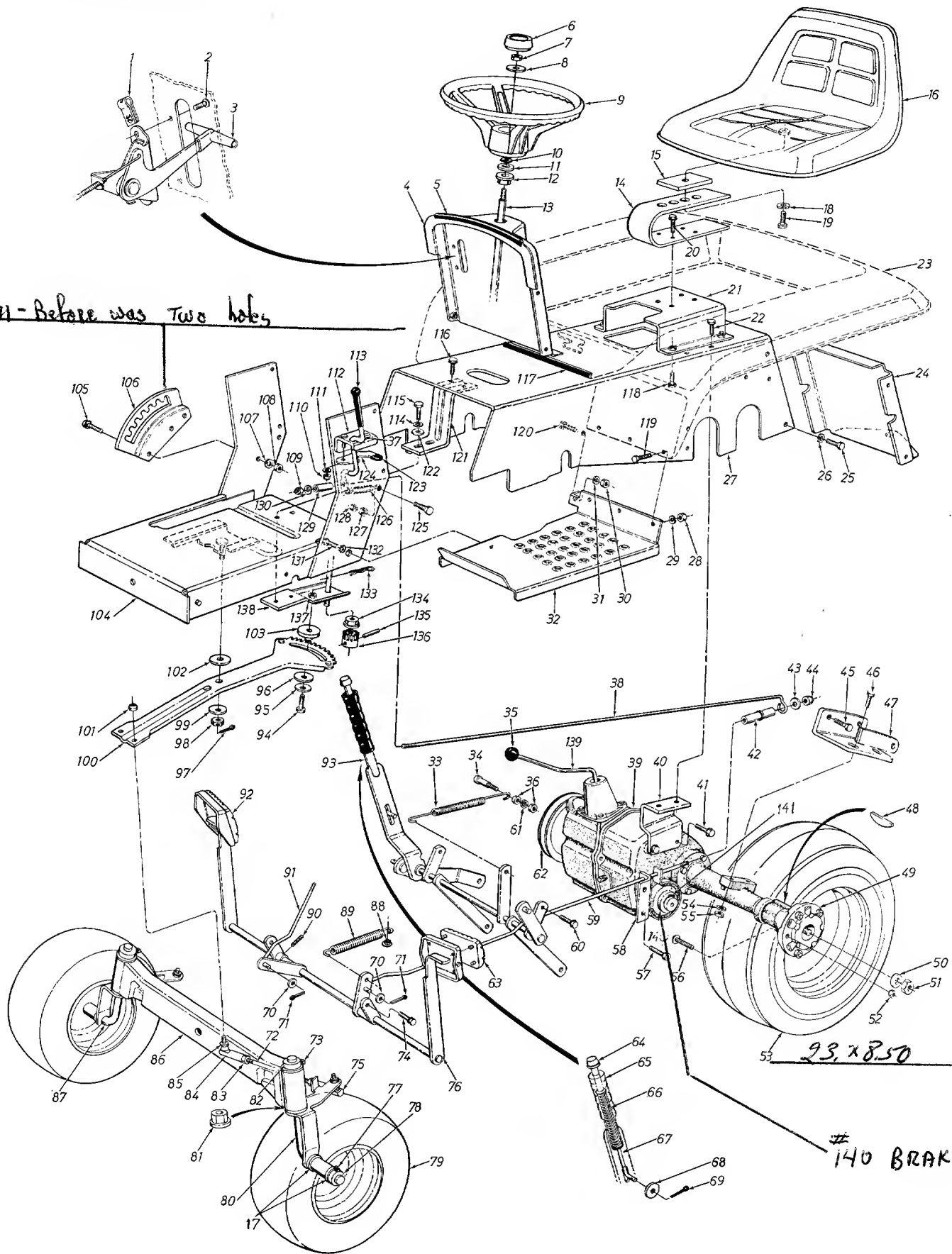
Peerless Tec.

794210 - Breakdown

on 910A

916A unit

# 148-860A



# PARTS LIST FOR MODEL 148-860A

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	712-0147		Speed Nut #10-24—"U" Type		47	13251		Axle Brkt. Ass'y.—L.H.	
2	710-0192		Truss Mach. Scr. #10-24 x .38" Lg.*			13250		Rear	
3	746-0161		Throttle Control Ass'y.—Comp.					Axle Brkt. Ass'y.—R.H.	
4	13249 —452		Dash Panel Ass'y.	48	714-0146			Rear (Not Shown)	
5	731-0144		Ext. U-Channel Vinyl 12.0" Lg.	49	719-0236			Woodruff Key #27 H.T.	
6	731-0220		Steering Wheel Cap	50	736-0233			Alum. Wheel Hub Ass'y. (with studs)	
7	712-0158		Hex Cent. L-Nut 5/16-18 Thd.	51	712-0288			FI-Wash. 3/4 I.D. x .812 O.D.	
8	736-0219		Bell. Wash.	52	712-0193			Hex Nut Ins. Lock 3/4-28 Thd.	
9	731-0356		Steering Wheel	53	734-0795			Cone Nut 3/8-24 Thd.	
10	736-0174		Wave Wash. .660 I.D. x .88 O.D. x .010			734-0278		Rear Wheel Ass'y. Comp. 23.0 x 8.50	
11	736-0156		FI-Wash. .635 I.D. x 1.12 O.D. x .090			734-0785		Tire Only 23.0 x 8.50	
12	748-0227		Hex Flange Brg. .630 I.D. Bronze	54	734-0255			Rear Wheel Rim Only	
13	738-0203		Steering Shaft	55	734-0329			Air Valve	
14	732-0256		Seat Spring	56	736-0169			Inner Tube (Service Only)	
15	735-0163		Rubber Strap		57	712-0798		L-Wash. 3/8"	
16	757-0274		Seat Ass'y. Comp.		58	710-0617		Hex Nut 3/8-16 Thd.	
17	748-0184		Bearing (2 per hub)					Rd. Hd. Rib Neck Bolt 3/8-24 x 1.00" Lg. (Service Only)	
18	736-0921		L-Wash. 1/2"	59	710-0198			Hex Sems Scr. 5/16-18 x .75" Lg.*	
19	710-0493		Hex Hd. Scr. 1/2-13 x 1.00" Lg.*	60	761-0163			Brake Ass'y. Comp.	
20	710-0198		Hex Sems Scr. 5/16-18 x .75" Lg.*		59	747-0238		Brake Rod 5/16"	
21	13241 —452		Fender and Seat Support Ass'y.	60	710-0209			Hex Sems Scr. 3/8-16 x .620 Lg.*	
22	710-0601		Hex Wash. Hd. Self Tap Scr.	61	736-0329			L-Wash. 1/4"	
23	13228 —462		Rear Fender Ass'y.	62	750-0288			6.0" Dia. Pulley (Trans.)	
24	08597 —452		Rear Frame Plate Ass'y.	63	12379			Clutch Pedal Pad	
25	710-0216		Hex Scr. 3/8-16 x .75" Lg.*	64	726-0110			Push Cap .375 Rod—Black	
26	736-0169		L-Wash. 3/8" Scr.*	65	08818			Grip 1.00" I.D. w/Hole	
27	13227 —452		Frame Sub Ass'y.—Rear	66	732-0156			Compression Spring	
28	712-0287		Hex Nut 1/4-20 Thd.*	67	08650			Index Rod	
29	736-0329		L-Wash. 1/4"	68	736-0234			FI-Wash. .385 I.D.	
30	712-0287		Hex Nut 1/4-20 Thd.*	69	714-0474			Cotter Pin 1/8" Dia. x .75" Lg.*	
31	736-0329		L-Wash. 1/4"	70	736-0264			FI-Wash. .344" I.D. x .62" O.D. x .063"	
32	13239 —462		Running Board Ass'y.—L.H.	71	714-0474			Cotter Pin 1/8" Dia. x .75" Lg.*	
	13238 —462		Running Board Ass'y.—R.H. (Not Shown)	72	711-0209			Tie Rod	
33	732-0191		Spring .75 O.D. x 11.0"	73	710-0494			Sq. Hd. Set Scr. 5/16-18 x .38" Cup	
34	710-0606		Hex Scr. 1/4-20 x 1.50" Lg.*	74	710-0209			Hex Sems Scr. 3/8-16 x .62" Lg.*	
35	720-0165		Gear Shift Knob	75	723-0156			Ball Joint Ass'y. 3/8-24 Thd.	
36	712-0287		Hex Nuts 1/4-20 Thd.*	76	12661			Foot Pedal Ass'y.	
37	12633		Hand Brake Lever	77	710-0666			Sq. Hd. Set Scr. 5/16-18 x .375" Cup	
38	747-0237		Hand Brake Rod	78	711-0169			Collar 5/8" I.D.	
39	—		Transaxle Comp. (See Breakdown Page )	79	734-0497			Front Wheel Ass'y. Comp. 15.0 x 6.0	
40	13244		Transaxle Torque Brkt.			734-0498		Tire Only 15.0 x 6.0	
41	710-0253		Hex Scr. 3/8-16 x 1.00" Lg.*			734-0499		Front Wheel Rim Only	
42	750-0187		Spacer .50" O.D. x 2.75" Lg.			734-0255		Air Valve	
43	736-0159		FI-Wash. .344 I.D. x .88 O.D. x .063			734-0253		Inner Tube (Service Only)	
44	712-0429		Hex Ins. L-Nut 5/16-18 Thd.*	80	11979 <del>20209</del>			Axle Brkt. Ass'y.—L.H.	
45	710-0253		Hex Scr. 3/8-16 x 1.00" Lg.*	81	748-0184			Flange Brg. .630 I.D.	
46	710-0344		Hex Scr. 3/8-16 x 1.50" Lg.*	82	711-0169			Collar 5/8" I.D.	
				83	712-0241			Hex Nut 3/8-24 Thd.*	

**PARTS LIST FOR MODEL 148-860A (CONTINUED)**

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART
84	723-0166		Ball Joint		115	710-0253		Hex Scr. 3/8-16 x 1.00 Lg. *	
85	712-0241		Hex Nut 3/8-24 Thd. *		116	712-0253		Hex Scr. 3/8-16 x 1.00" Lg.	
86	11833		Front Pivot Bar Ass'y.		117	731-0253		Ext. U-Channel Vinyl 10.0" Lg.	
87	11980		Axle Brkt. Ass'y. — R.H.						
88	726-0106		Push Nut 1/4" Rod		118	710-0198		Hex Sems Scr. 5/16-18 x .75 Lg. *	
89	732-0180		Extension Spring		119	710-0134		Carr. Bolt 1/4-20 x .62" *	
90	710-0938		Set Scr. 1/4-20 x .25" Lg. Cup Point		120	710-0255		Hex Scr. 1/4-20 x .62" *	
91	711-0218		Clutch Rod		121	08618		Reinforcement Brkt. Ass'y.	
92	12378		Brake Pedal Pad		122	736-0105		Bell. Wash. .400" I.D. x .88" O.D. x .060	
93	13258		Lift Handle Ass'y. Comp.		123	11249		Knob	
94	710-0344		Hex 3/8-16 x 1.50" Lg. *		124	11504		Lever	
95	736-0169		Spring L-Wash. 3/8" *		125	711-0220		Hex Hd. Step Scr. Spec.	
96	07386		FI-Wash. .390 I.D. x 1.75 O.D. x 3/16 Thk.		126	732-0264		Extension Spring .38" O.D. x 2.50"	
97	714-0115		Cotter Pin 1/8" Dia. x 1.00" Lg. *		127	712-0798		Hex Nut 3/8-16 Thd.	
98	712-0114		Hex Slotted Nut 1/2-20 Thd. *		128	712-0287		Hex Nut 1/4-20 Thd. *	
99	736-0112		Bell-Wash. .535" I.D.		129	750-0219		Spacer .385" I.D. x .51" O.D. x 2.00"	
100	11965		Steering Segment Ass'y.		130	736-0463		FI-Wash. .281" I.D. x .62 O.D. x .059"	
101	712-0116		Hex Ins. L-Nut 3/8-24 Thd.		131	710-0216		Hex Scr. 3/8-16 x .75" Lg. *	
102	736-0100		FI-Wash. .531 I.D. x 1.25" O.D. x .36"		132	736-0148		Ext. Wash. 3/8"	
103	750-0215		Steering Spacer		133	714-0104		Int. Cotter Pin 5/16" Dia. *	
104	11955		Front Frame Ass'y.		134	748-0228		Hex Flange Brg. .505 I.D.	
105	710-0253		Hex Scr. 3/8-16 x 1.00" Lg. *		135	715-0134		Spring Pin 3/16" Dia. x 1.50"	
106	11971		Index Brkt.		136	748-0203		Spur Gear 12 Teeth	
107	736-0169		L-Wash. 3/8"		137	712-0227		Weld L-Nut 3/8-24 Thd. *	
108	712-0798		Hex Nut 3/8" Thd.		138	10043		Lower Mount Brkt. Ass'y.	
109	712-0324		Hex Ins. L-Nut 1/4-20 Thd. *		139	717-0356		Shift Lever	
110	712-0324		Hex L-Nut 1/4-20 Thd. *		140	761-0161		Brake Drum	
111	736-0142		FI-Wash. .281 I.D. x .50 O.D. x .63			714-0388		Key #61 Hi-Pro 3/16 x 5/8 For Drum	
112	11500		Hand Brake Brkt. Ass'y.		141	716-0102		Snap Ring 1"	
113	720-0143		Grip						
114	736-0169		Spring L-Wash. 3/8" *						

## APPLICATIONS / ACCESSORIES

42" ANGLE BLADE - 198-753

36" SNOW THROWER 198-759

42" SNOW THROWER 198-969

### MOWERS

42" MOWER 198-762

### REAR MOUNT ATTACHMENTS

10" PLOW 198-978

SINGLE HARROW 198-980

ROW CULTIVATOR 198-984

DRAW BAR 198-761

LAWN ROLLER 198-660

SPIKE AERATOR 198-655

SWEEPER 198-468

GANG REEL 198-467

CART 198-653

STAKE SIDES 198-651

### CATEGORY O & MISCELLANEOUS ATTACHMENTS

~~STAP~~ ~~TYPE~~

REAR WEIGHTS 198-783

CHAINS 198-961

# PARTS INFORMATION

## POWER EQUIPMENT PARTS AND SERVICE

Parts and service for all MTD manufactured power equipment are available through the authorized service firms listed below. All orders should specify the model number of your unit, parts number, description of parts and the quantity of each part required.

<b>ALABAMA</b>	<b>BIRMINGHAM</b>
Auto Electric & Carburetor Co. ....	2625 4th Ave. S. .... 35233
<b>ARKANSAS</b>	<b>NORTH LITTLE ROCK</b>
Sutton's Lawn Mower Shop .....	Rt. 4, Box 368 .... 72117
	<b>FORT SMITH</b>
Mity Mite Motors, Inc. ....	2515 Towson Ave. .... 72901
<b>CALIFORNIA</b>	<b>PORTERVILLE</b>
Billious .....	75 North D Street .... 93257
	<b>SAN BERNARDINO</b>
Lawn Mower Supply Co. ....	25608 E. Baseline .... 92410
	<b>SAN FRANCISCO</b>
J.W. Jewett Co. ....	981 Folsom St. .... 94107
	<b>SACRAMENTO</b>
Luttig & Severson .....	2030 28th St. .... 95818
<b>COLORADO</b>	<b>DENVER</b>
South Denver Lawn Equip. ....	527 West Evans .... 80223
<b>FLORIDA</b>	<b>JACKSONVILLE</b>
Radco Distributors .....	2403 Market St. .... 32206
	<b>CORAL GABLES</b>
Moz-All of Florida, Inc. ....	365 Greco Ave. .... 33146
<b>GEORGIA</b>	<b>EAST POINT</b>
East Point Cycle & Key .....	2834 Church St. .... 30344
<b>ILLINOIS</b>	<b>LYONS</b>
Keen Edge Co. ....	8615 Ogden Ave. .... 60534
<b>INDIANA</b>	<b>ELKHART</b>
Parts & Sales Inc. ....	2101 Industrial Pkwy. .... 46514
<b>IOWA</b>	<b>DUBUQUE</b>
Power Lawn & Garden Equip. ....	2551 J.F. Kennedy .... 52001
<b>LOUISIANA</b>	<b>NEW ORLEANS</b>
Suhren Engine Co. ....	8330 Earhart Blvd. .... 70118
<b>MARYLAND</b>	<b>TAKOMA PARK</b>
Center Supply Co. ....	6867 New Hampshire Ave. 20012
<b>MASSACHUSETTS</b>	<b>SPRINGFIELD</b>
Morton B. Collins Co. ....	300 Birnie Ave. .... 01107
<b>MICHIGAN</b>	<b>MOUNT CLEMENS</b>
Power Equipment Dist. ....	36463 South Gratiot .... 48043
	<b>LANSING</b>
Lorenz Service Co. ....	2500 S. Pennsylvania .... 48900
<b>MINNESOTA</b>	<b>MINNETONKA</b>
Hance Distributing Inc. ....	11212 Wayzata Blvd. .... 55343
<b>MISSISSIPPI</b>	<b>BILOXI</b>
Biloxi Sales & Service, Inc. ....	506 Caillavet St. .... 39533
<b>MISSOURI</b>	<b>KANSAS CITY</b>
Automotive Equip. Service .....	3117 Holmes St. .... 64109
	<b>ST. LOUIS</b>
Henzler, Inc. ....	2015 Lemay Ferry Rd. .... 63125
<b>NEW JERSEY</b>	<b>BELLMAWR</b>
Lawnmower Parts Inc. ....	717 Creek Rd., P.O. Box 7 . 08030
<b>NEW YORK</b>	<b>CARTHAGE</b>
Gamble Dist., Inc. ....	West End Ave. .... 13619

## BRIGGS & STRATTON, TECUMSEH AND PEERLESS PARTS AND SERVICE

Briggs & Stratton, Tecumseh and Peerless parts and service should be handled by your nearest authorized engine service firm. Check the yellow pages of your telephone directory under the listing **Engines—Gasoline**, Briggs & Stratton or Tecumseh Lauson.

<b>NORTH CAROLINA</b>	<b>GREENSBORO</b>
Dixie Sales Company .....	327 Battleground Ave. .... 27402
	<b>GOLDSBORO</b>
Smith Hardware Co. ....	515 N. George St. .... 27530
<b>OHIO</b>	<b>WADSWORTH</b>
National Central .....	687 Seville Rd. .... 44281
	<b>CLEVELAND</b>
Bleckrie, Inc. ....	7900 Lorain Ave. .... 44102
	<b>CARROLL</b>
Stebe's Mid-State Mower Supply .	Box 366 .... 43112
	<b>WILLARD</b>
Sunshine Wholesale Tire Outlet .	Route 224 .... 44890
<b>OKLAHOMA</b>	<b>MUSKOGEE</b>
Victory Motors, Inc. ....	605 S. Cherokee .... 74401
	<b>ADA</b>
Ada Auto Supply .....	301 E. 12th St. .... 74820
<b>OREGON</b>	<b>PORTLAND</b>
Kenton Supply Co. ....	8216 N. Denver Ave. .... 97217
<b>PENNSYLVANIA</b>	<b>HARRISBURG</b>
Eeco Inc. ....	4021 N. 6th St. .... 17110
	<b>PHILADELPHIA</b>
Thompson Rubber Co. ....	5222-24 N Fifth St. .... 19120
	<b>PITTSBURGH</b>
Bluemont Co. ....	11125 Frankstown Rd. .... 15235
<b>TENNESSEE</b>	<b>KNOXVILLE</b>
Master Repair Service .....	2423 Broadway, N.E. .... 37917
	<b>MEMPHIS</b>
Memphis Cycle & Supply Co. ....	421 Monroe Ave. .... 38100
American Sales & Service, Inc. .	1922 Lynnbrook .... 381
<b>TEXAS</b>	<b>DALLAS</b>
Marr Brothers, Inc. ....	423 E. Jefferson .... 75203
	<b>HOUSTON</b>
Bullard Supply Co. ....	2409 Commerce St. .... 77003
	<b>SAN ANTONIO</b>
Catto & Putty, Inc. ....	P.O. Box 2408 .... 78206
	<b>FORT WORTH</b>
Woodson Sales Corp. ....	1702 N. Sylvania .... 76111
<b>UTAH</b>	<b>SALT LAKE CITY</b>
A-1 Engine & Mower Co. ....	437 E. 9th St. .... 84111
<b>VERMONT</b>	<b>BURLINGTON</b>
Vermont Appliance Co. ....	44 Lakeside Ave. .... 05401
<b>VIRGINIA</b>	<b>RICHMOND</b>
RBI Corp. ....	963 Myers St. .... 23260
<b>WASHINGTON</b>	<b>SEATTLE</b>
Bailey's Rebuild, Inc. ....	1325 E. Madison St. .... 98102
<b>WEST VIRGINIA</b>	<b>CHARLESTON</b>
Young's, Inc. ....	233 Virginia St., E. .... 25301
<b>WISCONSIN</b>	<b>APPLETON</b>
Automotive Supply Co. ....	123 S. Linwood Ave. .... 54911

## WARRANTY PARTS AND SERVICE POLICY

The purpose of warranty is to protect the customer from defects in workmanship and materials, defects which are NOT detected at the time of manufacture. It does not provide for the unlimited and unrestricted replacement of parts. Use and maintenance are the responsibility of the customer. The manufacturer cannot assume responsibility for conditions which it has no control. Simply put, if it's the manufacturer's fault, it's the manufacturer's responsibility; if it's the customer's fault, it's the customer's responsibility.

### CLAIMS AGAINST THE MANUFACTURER'S WARRANTY INCLUDES

1. Replacement of Missing Parts on new equipment.
2. Replacement of Defective Parts within the warranty period.
3. Repair of Defects within the warranty period.

All claims MUST be substantiated with the following information:

1. Model Number of unit involved.
2. Date unit was purchased or first put into service.
3. Date of failure.
4. Nature of failure.